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THE JOURNAL

OF THE

INDIANA STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF INDIANA

ISSUED MONTHLY

UNDER DIRECTION OF THE COUNCIL

ALBERT E. BULSON, JR., B.S., M.D., Editor and Manager BEN PERLEY WEAVER, B.S., M.D., Ass't Editor

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INDEX TO VOLUME IV

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ORIGINAL ARTICLE

REVOLUTIONARY METHODS IN CONNECTION WITH SYPHILIS

DEMONSTRATING, BY DARK FIELD ILLUMINATOR, THE SPIROCHETE, AND REVIEWING EHRLICH'S "606" *

FREDERICK R. CHARLTON, M.D.
INDIANAPOLIS

Prefacing this paper I must disclaim any originality whatever. Its purpose is that of a review which collects out of the already enormous literature a few of the essential, interesting and practical points. I have used the material from many sources, often quoting verbatim, in other cases taking the liberty of condensing and simplifying. The Germans have led in these studies and practically every reference traces back to them, or is merely a repetition of what they have pointed out.

A favorite and oft-repeated remark of Dr. Osler was that "a man need know but one disease in order to practice medicine intelligently, and that if he know that one disease well then would he be eminently qualified to practice medicine." That one disease was syphilis. It simulates and counterfeits at one time or another in some of its many varying phases almost every known pathologic process. It is back of more obscure conditions than even we, as doctors, have heretofore believed. It is doubtful if the medical profession has fully comprehended its prevalence, much as has been admitted. Centuries have doctors worked with it making many wise and accurate observations, but these endless years of labor have after all been in the dark. We did not know the cause of syphilis. We had no tests of any delicacy whatever to apply to its management. Our best treatment was far from satisfactory and occasionally a complete failure. All in the world that was done was to recognize the disease by its destructive processes, and to attempt to keep these evidences in abeyance. After pursuing this plan of campaign for a certain term of years we discontinued our treatment and hoped that our patient might not become a paretic or develop locomotor ataxia.

In five years this situation has been revolutionized. In 1905 Schaudinn and Hoffman discovered the *Spirochæta pallida.* Its microscopic demonstration was then difficult, and this difficulty has not yet been obviated. The stained specimens require carefulness in preparation and painstaking attention in finding the organism, and in spite of such care still with frequent failure. This discovery was the fundamental step that opened the way. Its significance could not be over-stated. It seems to me that in the rapid strides since, we have too nearly forgotten Schaudinn and Hoffman. There is every reason to believe that we will develop easier, quicker, more accurate methods than the very welcome and relatively very efficient staining methods that we now have.

Some time after this discovery there was brought into use an older microscopic principle —the dark field illuminator. This apparatus has simplified the demonstration of the spirochete. The principle involved is that of a powerful light being thrown through the specimen from the outer angles of the field, but not converging in the eye of the investigator. We then see the organisms in their natural juices, unstained and active, as they are of the mobile variety; just as we see dust particles in the sunbeam that finds its way into a darkened room.

Campbell of Montreal says of the *Dunkelfeld:* "It is easy, rapid and allows a large amount of

* Read before the Indianapolis Medical Society, Nov. 29, 1910.

material to be examined and shows in general a larger number of organisms than do stained smears. In only one instance did we find by stains, failing with the dark field, the reverse occurring in a number of instances. The *Spirochæta dentium*—the *Spirochæta pseudo pallida*, and *Spirochæta refringens* are confusing forms that can be avoided by cleaning off the surface débris and getting only fresh serum even if mixed with red cells."

The juices from gland puncture may be so examined, from secondaries or tertiaries as well as from the initial lesion. Dry lesions such as squamous secondaries do not have as many spirochetes as moist lesions, the tonsils being particularly rich. The liver and spleen of congenitally syphilitic babies are full of spirochetes; hence our resort to them for Wassermann reagents. It is immediate and I shall try to show you at the conclusion of this paper the living spirochetes from an initial lesion, the case being available by courtesy of Dr. H. K. Langdon.

We have had to abandon many old views and modify others. Dr. F. Bering calls attention to the nullifying of Profeta's and Colles's laws so long accepted. All the phenomena associated with such cases are not yet clear, but we must accept that an apparently healthy mother giving birth to a syphilitic child does not herself escape as heretofore taught. She has syphilis. We must accept that an apparently healthy child born of a syphilitic mother does not itself escape as has been believed. It also has syphilis. We know that congenital syphilitics, if they survive, tend to get well. This throws a new light on the old biblical idea of "even unto the third and fourth generations." Such a direct heritage is highly improbable. The life stream tends to purify itself. The diseases that affect the race are not cumulative. The succeeding generations are eliminative.

Dr. K. Hochsinger studied over a long term of years 263 known syphilitic children in families under surveillance. Fully 25 per cent. grew up to be healthy adults. This is in line with the recent thought and observations that the syphilitic poison seems to die out at about puberty, later primary infection often taking place. This has happened repeatedly. Puberty seems to be the critical period. If they survive puberty they get well. Two such cases have recently been reported from St. Louis, one each by Drs. Scott and Suggett. Another observation by Dr. Hochsinger was that "when it is noted that in several children of a family at about the same period nervous, irritable tendencies develop, syphilis should be suspected. Severe disturbances in the central nervous system, if from inherited syphilis, develop about puberty if at all." This observation has been applied to several families with a regularly occurring dementia præcox as the children reach a certain age.

Wassermann in 1906, only one year after the announcement of the spirochete, applied the Bordet-Gengou discoveries to a practical and positive blood-test for syphilis. The original Wassermann remains yet by far the most satisfactory and dependable method. This is its drawback: that it cannot be dependably done outside of a well-equipped biologic laboratory. In a city of 250,000 inhabitants, such as Indianapolis, surrounded by a dense tributary population, this should not be a bar to its usefulness. Such a laboratory is a crying need. Let us have it.

Noguchi, in his efforts to make the test simpler and more available, has done splendid work and accomplished much. Still, even the Noguchi cannot be conducted by the private practitioner. The imperative need is for carefully prepared, tested and preserved materials, and for expert manipulation and interpretation of the test steps. Controls over all the ingredients, as well as a normal against the suspected blood, are necessary. Even the Noguchi requires the equipment of a biologic laboratory and an expert to conduct the work. I have talked to several men who are actually in the thick of such work. They unanimously condemn it as a part, an incidental part, of the work of the active practitioner. The possibilities of error are too great, and to condemn an individual to a mistaken diagnosis of syphilis is unforgiveable. We must have such a laboratory. We cannot do intelligent, up-to-date work without it. The use of the new remedy, Ehrlich's "606," absolutely demands it. This is nearly, if not quite, as important as tuberculosis work, and far more important than much other work that is required of our state laboratory. The state laboratory isn't prepared to do this as routine work at this time. May we hope to see money and equipment provided through this channel! For those who have not had time to get clear on the Wassermann, let me submit this chart adopted from Noguchi, and making plain what the Wassermann really is. [Charts explaining Ehrlich's side-chain theory in its bearing on the Wassermann. Also charts showing the actual steps and changes in the Wassermann.] Such is the Wassermann, now universally accepted as giving positive, indubitable evidence if the test be properly conducted. I quote some of the interesting findings:

Ensor of Mount Hope Insane Hospital, Baltimore, finds "in 262 male patients only 3 per cent. giving a history of syphilis, positive sixty-two, or 14 per cent."

Hecht states that "it will soon be an official weapon in the regulation of prostitution in Germany."

Baar in twenty-one cases denying syphilitic history, but where there were confusing symptoms possibly indicating such infection, found "nineteen positive and two negative, and these two negatives had had iodids and mercury."

Dr. Atwood of Vanderbilt clinic writes: "It has long been recognized that syphilis plays an important rôle in the causation of idiocy and the arrest of brain development. It is now known to be a prominent factor in idiocy, imbecility, epilepsy, some cases of dementia præcox, and in nearly all general paralysis.

"In 204 cases of a low order of idiots with a varying classification, positive syphilis was shown in 147; this in spite of the fact that congenital syphilis tends to die out as children approach and pass puberty. That this is not absolutely true is shown by positive syphilis being proved in three congenital idiots aged 34, 35 and 37 years."

Neisser says that the Wassermann reaction reveals syphilis with such certainty that nothing could induce him to dispense with it. Based on the old mercurial treatment the effects of treatment on the Wassermann are as follows:

Citron found 81 per cent. positive in a long series of untreated cases. With treatment usually short and inadequate the percentage of positive findings was reduced to 65 per cent.

Bruck and Stern found positive in 81.5 per cent. untreated cases and only 28 per cent. in treated cases.

Hoehne in 211 positive cases without treatment found that with treatment 56 per cent. became negative.

Lesser states that a positive reaction can be made negative in about 35 per cent. of cases by giving thirty inunctions of mercury, twelve injections of an insoluble mercuric preparation or twenty-five injections of a double mercuric preparation.

The rapidity with which the reaction disappears is very variable.

At the eighty-second session of the German scientists, held at Königsberg in September, 1910, Ehrlich bemoaned the difficulties of the Wassermann, and doubted the worth of many of its modifications. He urged that some method must yet be devised that will enable the practitioner to apply it to his patients. In this day syphilis cannot be creditably managed without resort to it.

One of the procedures that is going to be very fruitful is that we are now succeeding in inoculating animals. Metchnikoff and Roux found as far back as 1903 that they could infect certain apes. More recently rabbits are being used, the method being to inject hypodermatically the virus into the scrotum. Immediately the parts are vigorously massaged producing some trauma. Syphilis almost invariably develops and these studies have made possible much that has been done by Ehrlich, Hata, Bertheim and others of that school.

Dr. McIntosh, in the London *Lancet,* reports that Iverson has been infecting rats with the spirochete of Obermeier, an organism closely related to the germ of syphilis. This produces relapsing fever. Injecting "606" into these rats the spirochetes disappeared entirely by the end of twenty-four hours and in no case were they found to have returned.

Diverging from the Wassermann to a point much discussed, namely, the excision of the chancre. Many men have urged this step. To me it has seemed preposterous that the patient should be subjected to a marring operation in the hope of materially affecting an inoculation of at least three or four weeks' standing. Levaditi of the Pasteur Institute, Paris, speaks the word that should put a stop to this futile and destructive measure: "During the period of inoculation and before the primary sore appears, the parasites invade the body, for during this stage in experimental animals the virus can be found in all the internal organs, particularly the spleen."

The story of Ehrlich's "606" constitutes one of the most brilliant and inspiring pages in science. There was no point of accident in it. It was method and clear purpose from the beginning. Dr. Home of the British Navy translates a paper read by Ehrlich in August, 1909, on "The Chemotherapy of Infectious Diseases." A few paragraphs will explain his line of thought.

"There are two ways of treating disease: one by immunizing the patient, immunotherapy, the other by curing with drugs, chemotherapy. These methods are at certain important points the same; thus the production of antibodies is of the greatest value in each system; still, their differences are most important. Immunotherapy concerns itself only with the antibodies, which owe their strongly marked specificity to their individual origins. These antibodies direct themselves exclusively against the bacteria and their

poisons; to the protoplasm of the patient they do no harm; that is why immunotherapy is the ideal, the perfect treatment. Without damage to the body it attacks the parasites only. Every sensible man will try to secure for his patient an immunity, active or passive, if immunity be attainable. But in the class of diseases caused by protozoa, malaria, tick fever, and the others, the desired production of antibodies does not occur. Their clinical course shows that this curative reaction of the organism is hindered by the nature of the parasites themselves, so we have to go on killing them with chemical substances, just as we have been doing in the past with quinin, mercury, iodids, and atoxyl. All such chemical substances are poisons; unlike the antibodies, they attack also the patient's organs and tissues and may do him harm even in the doses required to produce their therapeutic effect. Such considerations urged me to make the thorough and systematic examination of this department of therapeutics to which in the last few years I have devoted myself.

"In ordinary chemistry the first principle is *corpora non agunt nisi soluta;* on the contrary, in chemotherapy the first principle is *corpora non agunt nisi fixata.* That is to say, that unless a drug can combine with the bacteria it cannot kill them; such drugs are called parasitotropic; they attack the parasites. But being poisonous, they also attack the organs of the body, and so are termed organotropic. The practical utility of the drug depends on the relation which these activities bear to one another. The organotropic effect should be low, the parasitotropic high, if the drug is to be of any use to us."

The medical profession has long realized the value of arsenic in anemias, particularly of parasitic origin; but inorganic arsenic could not be used in sufficiently large dose. So Ehrlich went to work to elaborate an organic arsenic. He adopted as his starting point a drug that had already shown itself useful in the trypanosome infections, namely, atoxyl. Typical of this group of diseases is sleeping sickness, probably the deadliest and hitherto the most unsuccessfully managed of the African plagues. Atoxyl had caused 2 per cent. of total blindness in all cases where it was used. Moreover its good results were not permanent. From it, however, Ehrlich developed a drug that did cure sleeping sickness doing it more efficiently and without detrimental after-effects. Economically this means that enormous districts in Africa will now be made habitable that have hitherto been shunned by all and more particularly by the black tribes who must be depended on to do the developmental work.

Later from this same atoxyl comes "606" (dichlor-dioxy-diamido-arseno-phenol). It gets its name from being the 606th experiment in a series of studies now numbering 630.

Being a very unstable salt, "606" is rapidly oxidized in the air, necessitating its being dispensed in vacuum tubes. The preparation will be available to the general profession sometime early in 1911. I made persistent efforts to secure it but was unable to do so. The Rockefeller Institute, having control of the experimental work in America, has allotted to certain cities and hospitals a limited amount that must be used according to their direction. Dr. Frank B. Wynn has been so favored by Dr. Flexner and I know of no one in Indiana to whom such recognition comes more deservedly. This preliminary work has been done along pure science lines, no element of commercialism or self exploitation being tolerated.

By this date Dr. Ehrlich will have received probably not less than 25,000 case reports where "606" has been used, certainly enough evidence to fully warrant prevailing enthusiasm. Note this. No one claims to know, not even Ehrlich himself, whether there may not be some recurrences of late syphilis. The treatment is too new. No such proof is available. For these observations to be measurably complete and conclusive we must wait for years. Bear in mind the historical data:

The first cases injected were in September, 1909, by Dr. Konrad Alt, in Uchtspringe.

A few similar private studies were made thereafter, but it was not until June, 1910, less than six months ago, that Wechselmann in Berlin called the attention of the profession to this apparently specific remedy. Many different methods have been suggested for its administration. I shall outline the method of Alt, which Professor Ehrlich himself favors.

Take a graduated glass stand cylinder of 100 c.c. capacity with a ground glass stopper. Into this drop twenty-five glass beads to aid mechanically in mixing. Add 10 c.c. of hot water, then carefully shake in the "606," avoiding if possible having it stick to the sides of the cylinder. It is then shaken vigorously. Add ½ c.c. of normal NaOH solution to each decigram of powder. Shake until the solution takes on a clear Rhine wine color. If not clear add a few drops more of the NaOH solution. Pour the solution into a suitable glass, rinse the beads and cylinder so as to get the full dose and add this to the first solu-

tion up to the point of 20 c.c. A faintly alkaline solution should be clear. Test papers may be used, the point being to obtain the reaction as faintly alkaline as possible. Inject. More recently Ehrlich has recommended that the above alkaline solution be diluted up to 150 or 200 c.c. and given intravenously.

Kromayer is now injecting the powder in liquid paraffin, depending on the alkalinity of the blood to produce a mono- or di-sodium salt. The injection is painless, but whether as effective, does not seem to have been stated. The effect of the remedy, however administered, seems the same, the effort being to decrease the pain and local reaction.

Michaelis, Lesser, Wechselmann and others use slightly different mixing methods, all being modifications of the original Alt.

Most authorities now favor a single injection of the whole amount into the subcutaneous tissues below the angle of the scapula. It is less painful than when in muscle, the gluteal injection often causing severe sciatic pains.

Rigid asepsis is enforced and the patients are confined to their beds for the first few days. Occasionally the local reaction is extremely painful and requires morphin. The improvement commences at once and within a very few days, if the amount of the drug has been large enough, the spirochetes can no longer be demonstrated.

The dose favored is larger than in the earlier cases when 0.3 grams was advised. It has crept up to a maximum dosage of 0.7 grams, and Ehrlich is now working on a slight chemical modification which he temporarily terms the "hyperideal 606," which will safely allow a still larger dosage.

There is a rise of temperature in most cases. Rarely it reaches a high degree and requires sponging. The idea is that it is produced by the enormous liberation of endotoxins following the destruction of numberless millions of spirochetes.

The reports are almost unanimous, only a few discordant observations being noted. Neisser is enthusiastic and says that obstinate brain cases yield to it as to no other remedy. He regards it as the clear duty in treatment. He is not satisfied with one dose, but repeats the 0.6 gm. dose in three to four weeks. He opens up the question of a continuous treatment along this line regardless of seroreactions and asks if the spirochetes will become immune to "606." In this connection Ehrlich believes that immunity is soon established against "606" and does not countenance repeated small doses, but urges the one large one. He terms this state of bacterial immunity *Arsenfest*.

Hata found that the fourth dose to rabbits was utterly without effect.

Dr. Home of the British Navy says in the *Lancet* that administered in a sufficiently large single dose it acts like magic. He comments: "This treatment has only been in use ten months, but relapses do not seem to occur. We hope it kills all the spirochetes, but malarial parasites do seem sometimes to hide in the spleen and escape quinin. It may be so here. We cannot know yet."

Professor Gilchrist of Johns Hopkins comments to the point that mercury renders a Wassermann negative, and yet the syphilis reasserts itself possibly years later. Let us be extremely careful about accepting a single injection of "606" as a permanent cure. What are some of the reputed possible dangers and contra-indications of "606"?

1. Personal idiosyncrasy to arsenic.
2. Organic heart disease.
3. Advanced nephritis.
4. Neuritis, particularly of the optic nerve.
5. Gastro-intestinal ulcerations.
6. Advanced atheromatous changes.

What may be said for and against these theoretic charges?

Bohac and Sabotka, some months ago, reported suppression of urine lasting for days; violent intestinal disturbances and abolished reflexes in three cases.

Dr. Ehrlich in reply showed these symptoms to have been due to methyl alcohol used in compounding the mixture. Since this method has been discarded no such symptoms have been observed elsewhere.

I quote from Dr. McDonagh (London *Lancet*): "The risk of optic nerve atrophy need scarcely be considered since no case of amaurosis is on record. I have injected one case of bilateral optic neuritis without atrophy ensuing, one case of unilateral optic neuritis caused by injections of soamin, two cases of syphilitic chorioiditis and two cases of syphilitic iritis which healed after a single injection."

Professor Ehrlich, about October 1, in over 12,000 recorded cases had not one developing eye trouble. Perhaps a dozen deaths have been reported, one from an epileptic institution where it was conceded that the patient was almost moribund at the time of the administration of "606." Another patient in an insane hospital, with advanced cerebral syphilis, died. The observer noted that she could have hardly survived even if the remedy had not been used.

Other deaths were of similar character. I can find no reports of heart or renal complication following its use.

Gastric ulcer as a contra-indication has crept into the literature. I can find no citation of the condition playing any part in all the thousands of cases now on record. The truth seems to be carefully and conservatively stated, backed up by an actual experience that is now in its scope more complete than ever before recorded, that the remedy properly administered is non-toxic, and I am strongly tempted to say harmless so far as serious results are concerned. It stands proved to be what we would ideally hope for, namely, a bacteriotropic and not an organotropic agent.

Wechselmann in the *Lancet* of Oct. 29, 1910, reports having himself treated over 1,100 patients and states that erosive chancres cleaned in from twelve to twenty-four hours and healed rapidly. In sclerotic chancres the absorption of induration took a little longer time. Mucous patches of mouth healed in from twelve to forty-eight hours even if the patient was an inveterate smoker. Roseola and superficial lesions fade out in a few days. Rupia and gummata heal rapidly. The osteoscopic or night bone pains disappear as by magic.

In view of the arsenic contained, Wechselmann has never given an injection where any change was noted in the optic nerve, the eyes always being examined by a specialist. Visceral syphilis abates very rapidly. In parasyphilids, as progressive paralysis and tabes, improvement is generally noted, but results are not so brilliant as in early lesions. Here we are dealing with scar tissue from which the spirochetes may long since have disappeared. The Wassermann requires from eight to forty days to become negative. Rarely it persists, when two injections are indicated. Unusual but occasionally occurring unpleasant effects of "606" are coryza and angina which are sometimes severe.

The new remedy, like all arsenic preparations, is an irritant and therefore often causes inflammation; this usually heals up with induration and thickening, but in some patients with sensitive tissues aseptic necrobiotic processes are set up which run a very slow course. For this reason it is desirable to perform the operation as gently as possible.

My experiences have been confirmed in every respect. It may therefore now be taken as certain that the value of the new remedy is great; nay, more, that it is indispensable, and its danger is shown to be small. Further work will make known the limits of its efficacy, but under all circumstances the discovery of it and the creation of chemotherapy form one of the greatest and happiest events in the history of the natural sciences.

Meirowsky, in the *Medizinische Klinik,* Berlin, states that in six out of eighty cases necrosis developed at the point of injection. The slough came away without pus.

Hoffman states that recurrences have been observed in a large number of cases of syphilis after treatment with "606" in the customary dosage and that by-effects have accompanied the use of the remedy to such an extent as to invalidate the claim that it is entirely harmless. The by-effects were noted when the acid solution was used—not so when the alkaline solution was substituted. Heart disturbances and pneumonic symptoms were noted.

Fischer of the Virchow Krankenhaus, in Berlin, reviews the entire list of publications, analyzes them and makes the following deductions:

1. Recurrences and increasing dosage show that a definite cure is not accomplished by the drug.

2. "606" ranks just above calomel injections, one injection of "606" effecting what it takes two injections of calomel to accomplish.

3. Its action is beneficent, perhaps more promptly so than any other remedy.

4. The effect of calomel will be less dangerous than "606," which must be regarded as of very high arsenic potency.

Weintrand, October 23, concludes from a study of 250 cases that often the single injection does not cure. In only thirty-seven out of seventy-seven did the Wassermann remain permanently negative.

The above quotations are the least favorable to the remedy of any that I have encountered. To offset these conservative statements I quote Dr. Gennerich from the *Berliner Klinische Wochenschrift,* September 19:

1. In one case of complete paresis the patient could stand up and hold out his hand the day after the injection and his mind was clear for the first time in two months.

2. In one case of total hemiplegia the arm could be bent at a right angle the next day, with subsequent rapid recovery.

Since the publication of the above statement by Fischer, to the effect that two injections of calomel are equivalent to one of "606," Wechselmann strongly denounces it and reports a recent case which for four years had obstinately resisted all forms of mercurial treatment including many

calomel injections, that was cured by one treatment with "606."

Neisser and Kuznitsky are convinced that the reactions after its administration are due to the enormous liberation of endotoxins.

Schwalbe of Munich reports many cases of psoriasis and lichen planus as being cured by "606."

Pick compares the specific action of "606" to that of quinin in malaria and comments on the fact that the cure is not always complete with the small dose used up to date. This should not detract from its importance. Its action is most apparent in malignant syphilis, all the manifestations of which disappeared completely in the eight cases of this type under treatment. Rebellious lesions of mucous membrane that had persisted for years disappeared in a few days after an injection. Febrile reaction was frequent though as a rule not high.

Pick later reports recurrences in several cases that he had earlier regarded as cures.

The eighty-second session of German scientists and physicians, held in September in Königsberg, brought this statement from Ehrlich:

"If the spirochetes do not completely disappear in twenty-four to forty-eight hours, either the dose is too small or the spirochetes are immune to arsenic." Specific antibodies are largely increased by the treatment. This is demonstrated where "606" is administered to a syphilitic mother having a syphilitic child. The child improves miraculously, although the amount of arsenic found in the mother's milk is exceedingly small. The argument is that antibodies are greatly increased. In this connection it is advised to give the child sometime afterward a small dose of "606" to kill any remaining spirochetes that might have survived the antibodies.

Some weeks ago I was privileged to see some of the work done with "606" by Dr. N. S. Kakels of New York, both as to its administration and the results in earlier cases.

Case 1.—There had been an enormous syphilitic gumma with associated masses about the pyloric end of the stomach and through the liver. The case had previously been regarded as malignant and inoperable. Exploratory operation was made and sections taken which proved to be syphilitic. The general condition was very bad. I saw him one week after the injection. The mass was fairly "melting" away. He was feeling good, eating heartily and gaining in a way little short of miraculous.

Case 2.—There had been destructive gummata of palate, pharynx and face that had obstinately resisted mercury. Part of the nose and lip were destroyed. Deep gummatous ulcerations were thick over the entire body. Anemia was advanced. The case was malignant and the man could have lived but a short time. "606" was used. One week later all the more superficial lesions had healed and the deeper ones were filling in rapidly. Appetite had returned, anemia was improved and he had gained many pounds in weight.

To quote Dr. Kakels: "Ehrlich-Hata '606' had not only saved this patient's life, for he was gradually failing, but in one week's time had stayed the active destructive processes caused by *Treponema pallida* and is rapidly restoring him to health. What remedy in the whole domain of the pharmacopeia could have done this?"

I saw these cases early in October together with photographs as they were before treatment. The results had been brilliant, almost beyond belief.

It may be well to call attention to the Jarisch-Herxheimer sign: "If the dose of '606' is too small, the exanthem deepens or brightens in color before it disappears. If the roseola develops in two or three days, it is of no consequence; but if it appears a fortnight after injection, the dose must be repeated."

I have seen this phenomenon follow one injection of salicylate of mercury. It is due to a liberation of endotoxins. Herxheimer spoke of this mercurial injection as "provocative" and regarded the fever and rash as diagnostic of syphilis.

Dr. Heym in the New York *Medical Journal* of Oct. 30, 1909, in a valuable article, called attention to the value of sodium cacodylate where arsenic was indicated and of its good effects in syphilis. It may be given either internally or hypodermatically in dosage ranging from 1 to 4 grains daily.

Dr. Murphy of Chicago echoes this and speaks of his own use of sodium cacodylate extending several years in some forms of carcinoma where it seems to relieve pain.

There will be many problems growing out of this great step. The *British Medical Journal*, Oct. 22, 1910, cites a number of instances of the most vicious forms of quackery arising from the demand for the remedy. It urges quick prosecutions and definite education of the public as to where such treatments may be reliably obtained.

I believe that even if a permanent cure does not result from a single injection, it is by far superior to anything we have had and that it is beyond words a boon to that army of unfortunates who stumble through life never free from the haunting dread of possible syphilis of brain

or cord. It will help to stamp out the disease which, with only one possible rival, stands as the heaviest curse on mankind.

In conclusion let us not forget the man Ehrlich. We owe him more than we can make payment for. America should soon express to him in some fitting way her debt of gratitude.

NOTE.—At the conclusion of the discussion fresh serum was taken from the initial lesion, by cupping, mounted on the *Dunkelfeld* and a successful demonstration made of the unstained spirochete.

SPECIAL ARTICLES

THE SURGICAL YEAR

MILES F. PORTER, M.D.
FORT WAYNE

I cannot hope in the time and space allotted me to give an exhaustive report on the year's work in surgery. I shall endeavor to discuss in a terse way some of what seem to me to be the more important contributions; and some, perhaps of equal importance, will be dismissed with little more than mere mention.

BOOKS

The book on "Dislocation and Joint Fractures" by Cotton marks a new departure in this line of work. The author says in his preface that the book was originally planned as a treatise on dislocations but that he abandoned this idea because he found from experience that so-called dislocations as they presented themselves to the practitioner might better be called "injuries to or near the joints." This book, both text and illustrations, is largely the author's own work and it is this character of individualism that especially appeals to me.

Astley P. C. Ashhurst was awarded the Samuel D. Gross prize of the Philadelphia Academy of Surgery for his excellent monograph on "Fractures of the Elbow." Hyperflexion, *x*-ray to see that reduction is complete, fixation until consolidation is complete, restoration of function by active movements by the patient himself, is the treatment advised. The book must be read to be fully appreciated. In this connection mention should be made of Goldthwait, Painter and Osgood's splendid work on "Diseases of Bones and Joints." It is to be hoped that this book will stimulate interest in this branch of surgical work which has been somewhat neglected.

The book of Ochsner and Thompson on the "Thyroid and Parathyroid Glands" is a splendid work on a very live subject.

Lucas Championniere has written an abstract of his larger work on "The treatment of Fractures by Massage and Mobilization." He employs very gentle massage and very limited mobilization on the theory that "a certain amount of motion of the fragments encourages the phenomena of bony repair." The ideal treatment of fractures perhaps lies between that advised by this author and that advised by those who insist on absolute fixation, for rather prolonged periods, both of the fragments and contiguous joints.

The work on "Surgical Diagnosis" by Alexander Bryan Johnson of New York is deserving of mention as being the most complete and comprehensive work on this subject of which I know. It is published in three volumes.

PRINCIPLES

To me the most important surgical paper of the year was one which I had the pleasure of hearing read by the author, G. W. Crile, at the recent annual meeting of the St. Joseph County Medical Society at South Bend, Ind.

Crile believes that the metabolic processes of the nerve cells are the highest in the organic scale and that they are very sensitive to pain, shock, toxins, drugs, and anemia. He studied the changes in the cells of the brain produced by anemia, fear, toxemia, trauma and certain drugs. In the later stages, whatever the cause, the morphologic changes are the same. These changes consist in an alteration of their reaction to Nissl's stain, alteration in size of cells, change in size relation between nucleus and cytiplasm, change in the membrane surrounding the nucleus, and change in the general contour of the cell. In extreme cases the cells are disorganized. Even in fatal cases only a certain proportion of cells are disorganized. When the cell body, nucleus and nucleolus become changed into a mass of undifferentiated protoplasm regeneration will not occur. The gravity of the condition, produced by the shock, anemia, or toxemia, depends upon the percentage of cells killed. Total anemia for six minutes was invariably fatal though the animal might be kept alive for hours by artificial respiration. Experiments could be so timed as to destroy the cortical cells while those of the medulla still lived. Decerebrates may in this manner be created at will. Many of these phenomena were confirmed in the human. Juice expressed from a gangrenous gut injected intravenously in a sound animal causes death preceded by the same symptoms as follow

resection of gangrenous intestine and in both instances like degeneration of the brain cells are found. In some instances of death from infection the most important change is not perhaps in the gross lesion at the peripheral focus but it is to be found in the brain cells. Trauma, anemia, infection and fear are synergistic. Comparatively slight trauma may kill a badly frightened patient, or a slight infection prove fatal in one who has lost much blood. Crile's observations coincide with and seem to explain many well known clinical observations, as for instance the susceptibility of anemic patients to shock and infection, the prognostic significance of delirium, and the nervous manifestations of pernicious anemia. In his paper Crile makes practical application of his observations which give promise of great value. The paper should be carefully studied by every practitioner. Clinical observation and animal experimentation along the lines pointed out by Crile should be carried on until we know the whole truth, as near as can be. To me the work seems to give promise of a harvest of great practical good.

Infection and Toxemia.—Crandon says[1] that Wright's solution (4 per cent. sodium chlorid and 1 per cent. sodium citrate in water) not only permits but stimulates the flow of lymph from wounds and that it is antiseptic. The solution should only be used in the acute stage of infection for from thirty-six to seventy-two hours. John E. Welch[2] reports very favorably on the use of normal human blood-serum in the treatment of hemophilia neonatorum and of puerperal infection. Bloodgood[3] thinks that with the aid of Biers' hyperemia the "so-called wide-open" wound will often be found unnecessary. I would add to Biers' hyperemia the application of Wright's solution. With these two therapeutic agents most infected wounds will do well with only sufficient openings for drainage. Parsons[4] adds his testimony to the efficiency of balsam of Peru in the prevention and treatment of wound infection. According to Sickman[5] it is the routine dressing in Graser's clinic in Erlangen for recent accidental wounds. There is a growing sentiment in favor of the use of autogenous vaccines and serums in addition to the recognized surgical measures in the treatment of infections. This applies with especial emphasis to tubercular, staphylococcus, and colon bacillus infections. Those interested in the subject should read the article entitled "Vaccine Therapy as an Adjunct to Surgery" by Deaver, Da Costa and Pfeiffer of the German Hospital, Philadelphia, in *Surgery, Gynecology and Obstetrics* for August, 1910.

Shock.—The observations and experiments of Crile[6] and Dolley[7] (see also paper of Crile above referred to) seem to place shock on a definite anatomical basis. The work of Crile (above referred to) also explains the relationship between shock and fear, shock and infection, shock and hemorrhage.

Status Lymphaticus.—This condition probably accounts for many of the sudden deaths following trivial surgical procedures, injuries and anesthesia, together with most of the otherwise unaccountable deaths, without history of injury or accident. The most constant pathologic finding in status lymphaticus up to this time is enlarged thymus, but a recent observation in the Hope Hospital clinic borne out by observations of others[8] lends color to the view that the essential condition in so-called thymic death is an acute leukemia. In the future all cases of unaccountable death should be carefully examined post mortem with especial reference to the blood, the thymus, the lymphoid tissue, and in view of Crile's recent paper, the brain cells should also be carefully examined.

Rachford[9] reports remarkably favorable results in the treatment of status lymphaticus by the *x*-ray.

Hemorrhage.—Direct transfusion of blood is firmly established as a life saving procedure in many grave cases. But if Crile's observations, as noted above, prove correct the transfusion must be made before the anemia of the brain has lasted long enough to produce destruction of the brain cells. Elsberg's[10] cannula makes the operation so simple that any one possessed with the slightest surgical skill can perform it.

Anesthesia.—The importance of the trained anesthetist has been more and more emphasized during the past year. A novice as an assistant is more excusable than a novice as an anesthetist. Anesthetists must be trained by experts. Meltzer[11] and Auer's "method of continuous respiration without respiratory movement" is a great contribution to surgery provided it can be shown

1. Ann. Surg., 1910, lii, 541.
2. Am. Jour. Med. Sc., June, 1910, cxxxix, 800.
3. Prog. Med., xii, No. 4, p. 208.
4. Kentucky Med. Jour., March, 1910.
5. Deutsch Ztschr. f. clin., 1910, civ, 298.
6. Ann. Surg., 1910, li, 753.
7. Jour. Med. Research, April, 1909, xx, 275.
8. Rachford, B. K.: Am. Jour. Med. Sc., October, 1910, p. 550.
9. Loc cit.
10. Jour. Am. Med. Assn., March 13, 1909, lii, 887. Surg., July, 1910, lii, 23; and Lillienthal, ibid, p. 30; also, Quinby; Surg., Gynec. and Obst., November, 1910, xi, No. 5, p. 482.
11. Med. Rec., New York, March, 1910; Elsberg: Ann.

that anesthesia by this method is as safe as by other methods.

Carrel uses this method for operations on the heart and lungs in animals. Lillienthal and Elsberg have used it successfully in man. The method consists in passing a catheter through the larynx to within about an inch of the bifurcation. To this catheter, through the use of a rubber tube, is attached an ordinary bellows and by it the anesthetic vapor is forced into the lungs. The anesthetic may be filtered and warmed very easily. The catheter must be small enough to allow the air to pass by it and out the glottis to prevent over distention of the lung. Introducing the catheter near to, but not to the bifurcation insures an equal inflation of both lungs. This method renders expensive cabinets unnecessary in surgery of the lungs and heart, and simplifies the technic of many operations on the head and neck.

Intravenous General Anesthesia has proved, thus far, to be uncertain and not without danger.

Local Anesthesia.—Nothing of note has been added to Biers' technic of intravenous local anesthesia.

Ransohoff[12] describes his method of producing what he calls terminal arterial anesthesia, and thinks it ideal for certain operations.

The main artery to the part is isolated under Schleich's anesthesia, a rubber band is placed about the limb above the exposed vessel and drawn sufficiently tight to obstruct the veins but not the arteries. Into the artery is now injected from 4 to 8 c.c. of a 0.5 per cent. solution of cocain in normal salt solution.

The report of Thatcher[13] to the Council of Pharmacy on Scopolaminmorphia Anesthesia is sufficient to condemn the method. The safety of the patient not the comfort of the operator should be the guide in choosing an anesthetic. Ethyl chlorid and chloroform are both more convenient than ether for anesthesia but both are also more dangerous.

Nitrous Oxid—Oxygen Anesthesia—is growing in favor. Halstead, Bevan and Crile are enthusiastic in its favor. Bloodgood[14] says it is remarkable how rapidly one becomes expert with the method. The apparatus which is an important part of this method is expensive and cumbersome. The method is also noisy and muscular relaxation is not good. However, if it is safer than ether it is bound to become the method of choice. Crile, in his paper above referred to, says that in nitrous-oxid anesthesia the blood-pressure showed far less change than in ether anesthesia and that in ether anesthesia there were four times as many brain cells destroyed as in the nitrous-oxid series. He concludes that nitrous-oxid protects against shock and that ether predisposes to it.

Cancer and Sarcoma.—In a personal letter, E. E. Tyzzer, who is the director of the Cancer Commission of Harvard University says they have met with no markedly successful results in the treatment of cancer by injection of various body fluids. Ascitic fluid from cases of cancer which have resisted the condition for years appears when injected to retard the growth of cancers somewhat.

The late Dr. Hodenphyl's case of spontaneous cure of cancer has since died of cancer and no cures were obtained by injecting the ascitic fluid in other cancer patients.

Coca and Gilman claim cures in certain cases from injecting a suspension of tumor tissue in salt solution. The suspension is made from the patient's tumor—a sort of autogenous inoculation. Tyzzer has had no experience with the method. I tried to learn something more definite of this method of treating cancer, but have thus far failed. Early radical operation is the only cure for cancer known up to this time.

Phelps[15] after an exhaustive review of the subject concludes "that cancer is primarily dependent upon a cause which is congenital, is hereditary in a certain proportion of cases, and is as inexplicable as the force which determines *ab ovo* the future sex and peculiarities of the individual."

This opinion to the contrary notwithstanding the weight of evidence is overwhelmingly in support of the theory that prolonged irritation is a causative factor of importance in the production of cancer. The observations of Payr[16] and of Wilson and MacCarty concerning the relationship of gastric ulcer and gastric cancer, together with the observations made at numerous clinics concerning the relationship between gall-bladder cancer and gall-stones, cancer of the prostate and prostatitis, mammary cancer and chronic mastitis, and other similar observations leave little doubt of the truth of the statement that prolonged irritation is a very frequent cause of cancer. Levin[18] has studied the etiology of cancer from a clinical standpoint. Four thousand cases were analyzed. No definite con-

12. Ann. Surg., 1910, li, 453.
13. Jour. Am. Med. Assn., Feb. 5 and 12, 1910, liv. 446, 516.
14. Progr. Med., Dec. 1, 1910, xii, No. 4, p. 185.
16. Wien. klin. Wchnschr., 1910, No. 9, p. 310.
17. Am. Jour. Med. Sc., 1909, No. 453, p. 846.
18. Ann. Surg., June, 1910, li, No. 6, p. 768.

clusions were reached but the evidence seems to show that increased vulnerability of the organism due to the ever-increasing strain of modern life is of more importance in the cause of cancer than is local trauma or previous disease of the affected organ.

Leo Buerger[19] in a paper based on thirty clinical cases and forty-six specimens concludes that true periosteal sarcoma is "so rare as to be negligible" and that bone sarcomas commence in the osseous tissue, sometimes perhaps just under the periosteal covering. Adherence to the histologic classification of Borst is advised and a classification based on gross morphologic criteria is made, viz:

A.—CENTRAL (ENDOSTEAL) TUMORS

1—Expansive of the bone ends.
2—Expansive of the shaft.
3—Diffusely infiltrating (non-expansive).
4—Destructive, dissolution (non-expansive).
5—Sclerosing (calcifying).
6—Perforating (non-sclerosing).

B.—PERIPHERAL TUMORS

7—Subperiosteal and true peripheal.

The paper has an important bearing on the diagnosis and treatment and is deserving of careful study in connection with a former article on the same subject published last year.[20] Bloodgood[21] says the evidence "should justify one to attempt the removal of a giant cell sarcoma of the medullary cavity with the curette, but the technic of curretting should consist of the application of the Esmarch and the thorough disinfection of the bone cavity. Appended to this paper is a complete bibliography of bone cysts and associated lesions. The growing tendency in bone sarcoma is toward conservatism.

Surgery of Bones and Joints.—Henry H. Janeway's article[22] on "Autoplastic Transplantation of Bone" gives the complete bibliography of bone transplantation up to date. Baer[23] of Kuettner's clinic successfully transplanted bone in dogs after preservation in cold storage for as long a period as three weeks.

Bloodgood[24] says that last May he had the privilege of seeing Baer's demonstration of the later results in mobilization of anchylosed joints by transplantation of animal membrane taken from the pig's bladder. "The results of an experience of two years were most gratifying." To acquire the technic one must read "Baer's cases in detail." The membrane is prepared for Baer by Johnson and Johnson.

Fred H. Albee[25] reports nine more cases in which he has done his operation for the production of painless anchylosis of the hip for arthritis deformans and other deformities of the hip. He says resection of the hip gives poor results while with this operation the results are satisfactory. The operation is simple and can be readily comprehended by reading the original article.

Since the methods of Helferich and Murphy of placing muscle and fascial flaps between the ends of the bones have been established better results are being attained in resections and we may hope in the future to have fewer disabilities from anchylosis.

In excision of the elbow Wharton[26] lays stress on removal of sufficient bone, suture of the triceps tendon to the ulna and early (not later than the third week) passive motion. He exhibited a case, which showed good functional results, that he had operated fifteen years before. A. C. Stokes[27] reports two cases of spontaneous forward dislocation of the wrist and gives a pretty complete review of the subject together with the bibliography.

Blood Vessels.—George P. Muller[28] reports a case of arteriovenous anastomosis of the femoral artery and vein at the apex of Scarpa's triangle and collects ten other cases in which this operation was done to stop the progress of gangrene. One perfect result was attained by Wieting. According to Muller when several toes are involved and the gangrene spreads to the dorsum the anastomosis with ligature of the external saphenous will almost certainly cause a line of demarcation to form. If either the superficial or deep vein is thrombosed the operation is contra-indicated. The work is still in the experimental stage.

Aneurysm.—Matas[29] in his presidential address before the American Surgical Association spoke of the fundamental importance of a knowledge of the condition of the collateral circulation before deciding on the surgical treatment of peripheral aneurysms. His test is as follows: with the patient recumbent and the affected limb lying on a piece of white paper, the artery is accurately located at a point as near as possi-

19. Am. Jour. Med. Sc., September, 1910, cxl, No. 462, p. 355.
20. Surg., Gynec. and Obst., 1909, ix, 431.
21. Ann. Surg., 1910, lii, No. 2, p. 171.
22. Ann. Surg., 1910, lii, No. 2, p. 217.
23. Centralbl. f. Chir., 1910, xxxvii No. 31, suppl., p. 20; abstr. in Progr. Med., xii, No. 4, p. 259.
24. Progr. Med., xii, No. 4, p. 239.
25. Surg., Gynec. and Obst., x, 256.
26. Ann. Surg., 1910, lii, No. 2, p. 272.
27. Ann. Surg., 1910, lii, No. 2, p. 229.
28. Ann. Surg., 1910, li, 246.
29. Ann. Surg., 1910, lii, 126.

ble to the aneurysm and a compress applied and tightened until the pulse in the aneurysm and the peripheral arteries is obliterated. An Esmarch is now applied from the extremity to the highest level of the aneurysm while the circulation in the sac is controlled by the compressor on the main artery on the cardiac side of the aneurysm. The Esmarch is left on five or six minutes in old subjects and ten minutes in young ones, then removed quickly, while the compressor still secures the main artery, and the hypermic wave carefully watched for. If this wave or blush extends over the entire limb the collateral circulation is efficient and if it does not it is not efficient. This is a most valuable contribution and should be read in the original.

Matas' aneurysmorraphy is gradually gaining the recognition it merits albeit not so rapidly as the value of the method would warrant.

Vessel Suture is now a well recognized surgical procedure which on the whole yields good results and should render amputation for vessel injury unnecessary in many cases, in which a short time ago amputation was considered the proper treatment.

Wounds of the heart are frequently successfully treated surgically. W. C. G. Kirchner[30] of St. Louis reports two cases, one fatal and one successful, and reviews the subject. In the same journal Lillienthal reports the "First Case of Thoracotomy Under Anesthesia by Intratracheal Insufflation." In this same journal also are to be found articles bearing on thoracic surgery by Willy Meyer, Green and Janeway and Alex Carrel.

Brain and Nerves.—The hypophysis, its functions and its diseases, is attracting much attention. Crowe, Cushing and Hermans[31] give their findings from experimental hypophysectomy. They conclude that total removal is invariably fatal and that death is due to loss of the hypophysis and not to the trauma of the operation. The terminal phenomena do not appear for two or three weeks after the removal. The same symptoms appear after the same interval following removal of the entire *pars anterior* alone. Removal of the posterior lobe does not disturb the physiologic balance unless possibly the convulsions and excessive sexual activity sometimes seen may be ascribed to absence of this lobe. Partial anterior lobe removals produce definite symptoms of hypopituitarism the most striking of these are adiposis and hypoplasia of the sexual organs while polyuria, glycosuria, alterations in skin, and hair, and physic disturbances are more or less frequent accompaniments. Hypopituitarism lowers resistance to infection. Glandular transplantations and injections of anterior lobe emulsion definitely prolongs the life of animals after total hypophysectomy.

Cushing[32] reports a case of partial hypophysectomy for acromegaly that was successful.

Mixter and Quackenbos[33] of Boston report a successful case of operation for tumor of the hypophysis with infantilism.

F. V. Eselsberg[34] discusses the question of operations on the hypophysis at some length and reports several cases of both hypopituitarism and acromegaly. He speaks highly of the Kanavel-Halstead technic, which he saw Cushing employ in a case, and said he had decided to try it. Kanavel's[35] operation may be said to be an infranasal, transsphenoidal route. See Halstead's description of the operation with the report of a successful case in *Surgery, Gynecology and Obstetrics*, May, 1910, p. 494.

Sciatica.—Bloodgood[36] is in favor of stretching the sciatic nerve by the open method and doing it earlier than it is usually done. He says that the reports from Halstead's clinic show a large number of cures of over three years' duration.

Spasticity.—The treatment of this condition by division of the posterior nerve roots seems to be growing in favor and several reports have been made on this treatment during the year, notably one by Spiller and Frazier,[37] the former having first recommended the treatment in 1905. Allison[38] advises nerve alcoholization for spasticities.

Thyroid Gland.—The prevailing note in the papers on the treatment of hyperthyroidism is earlier operation. Complete cure cannot be had unless the operation is done before degenerative changes, especially of the heart muscle, have advanced too far.

At the meeting of the Southern Surgical and Gynecological Association in 1908 I first suggested the injection of boiling water into the substance of the thyroid for the cure of hyperthyroidism. Since this I published a preliminary report[39] on this method of treatment. Further experience warrants the belief that the

30. Ann. Surg., 1910, lii, No. 1, p. 96.
31. Bull. Johns Hopkins Hosp., May, 1910; abstr. Jour. Am. Med. Assn., liv, 1905.
32. Ann. Surg., 1909, l, 1002.
33. Ann. Surg., 1910, lii, 15.
34. Loc. cit.
35. Jour. Am. Med. Assn., 1909, liii, 1704.
36. Progr. Med., 1910, xii, No. 4, p. 225.
37. Univ. Penn. Med. Bull., January, 1910; abstr. in Jour. Am. Med. Assn., liv, 1170.
38. Surg., Gynec. and Obst., December, 1910, ix, 595.
39. Am. Jour. Physiol. Therap., 1910, i, No. 2, p. 73.

treatment is safe, practically painless, and effective. A further report will be made later.

Thyroid Transplantation.—The reports on this procedure seem somewhat conflicting, but on the whole encouraging. The surgical part of the problem may be said to be solved, it is the biologic part that is yet to be worked out.

Mammary Gland.—Nothing really new has developed in this line but I would like to emphasize Frazier's[40] recommendation that oöphorectomy be done more frequently in cancer of the breast especially in young women with inoperable growths, and again[41] call attention to the fact that carcinoma of the breast may manifest itself by a watery or bloody discharge from the breast without either pain or tumor. In such cases the safest and best thing to do, is to remove the breast, have a frozen section made, and if the trouble is found to be malignant then do a radical operation.

Abdomen.—Coffey's[42] article on the "Plastic Surgery of the Abdominal Wall," is well worth study. He describes an ingenious method of overlapping the fascia in cases of pendulous abdomen in such a way as to make a good abdominal support out of living tissue.

Esophagus.—C. H. Mayo[43] discusses the subject of esophageal diverticula and reports eight cases. Radiographs are taken after filling the sacs with bismuth as a means of diagnosis. He also calls attention to Plummer's method of having the patient swallow three yards of silk twist at night and three yards more the next morning of the continuous thread. A whalebone stem with a perforated olive tip is now threaded on the end of the twist and the tip slipped down until an obstruction is reached. If now the thread is made taut the instrument will be pulled up in case the tip is in a diverticulum whereas if it be arrested by a stricture this maneuver will not raise the instrument. In this way the existence and depth of the sac is measured and its mouth located. Six cases were operated with perfect results. Two did not return for operation. The operation is usually quite easy. Large sacs should be emptied before operation for fear of strangulation.

Stomach.—I have already referred to the paper by Wilson and MacCarty on the relationship between gastric ulcer and gastric cancer but I want to advise all who are interested in this subject to read this paper and the one by MacCarty[44] on "The Pathological and Clinical Significance of Stomach Ulcer," because they are perhaps the most important papers on the surgery of the stomach that have appeared within the past twelve months.

W. J. Mayo[45] describes what he terms "Transgastric Excision of Calloused Ulcer of the Posterior Wall of the Stomach." An opening is made in the anterior wall of the stomach, through which the ulcer in the posterior wall is excised, and the opening made by the excision closed. The opening in the anterior wall is then closed, a rubber tissue drain carried to the point of excision of the ulcer and brought out the abdominal wound. He has made the operation five times successfully. The operation is advised because in this class of ulcers (located some distance proximal to the pylorus) posterior gastrojejunostomy does not prove curative and for the further reason that in the Rochester clinic it was found that 71 per cent. of the gastric cancers had developed on gastric ulcers. It is pertinent to remark here that excision of gastric ulcer, instead of gastrojejunostomy, is growing more and more in favor, and should be the operation of choice in suitable cases.

Arteriomesenteric Ileus is now an established fact according to A. Schwizer of St. Paul.

According to Habeser all these cases which did not respond to other means of relief and had to be operated died.

Schwizer's case recovered, after a stormy and threatening convalescence, following an operation consisting of a gastro-enterostomy coupled with a gastrostomy, which permitted feeding through a catheter directly into the jejunum.

Biliary Fistulæ.—W. S. Sutton[47] of Kansas City reports a case of biliary fistula which was operated according to the method of V. Stubenrauch.[48] The operation failed to cure the patient and a subsequent cholecystenterostomy had to be done. Sutton concludes that this operation is feasible architecturally but a failure from the physiologic standpoint. G. E. Brewer of New York[49] reports a case of Hepatico-duodenal anastomosis operated by a modified Sullivan method in which the result at the end of two months leads the author to think that the new duct though "still open is considerably narrowed and likely to close."

Pancreas.—Finney of Baltimore reports a successful case of resection of the pancreas and

40. Progr. Med., 1910, xii, No. 1, p. 85.
41. Jour. Am. Med. Assn., 1910, liv, 184.
42. Surg., Gynec. and Obst., 1910, x, 90.
43. Ann. Surg., 1910, li, No. 6, p. 312.
44. Surg., Gynec. and Obst., May, 1910, p. 449.
45. Ann. Surg., 1910, lii, No. 6, p. 797.
46. Ann. Surg., 1910, lii, No. 3, p. ?? ?? ?
47. Ann. Surg., 1910, lii, No. 3, p. 380.
48. Arch. f. klin. Chir., lxxix, 4s, 1025, 1906.
49. Ann. Surg., 1910, li, No. 6, p. 830.

reports in brief all the other cases[50] he could find recorded. Finney's case was one of solid tumor of the pancreas which necessitated the removal of the whole of the middle portion of the gland. The two fragments of the gland left were approximated as accurately as possible with mattress sutures of catgut.

Separation of the Colon from its Mesentery.—Bunts[51] reports a case in which, by mistaking it for the omentum, he separated 8 inches of the descending mesocolon from the gut by ligation and division close to the bowel. After discovering the mistake, the patient's condition being bad, he resutured the gut to the mesocolon and replaced it. The patient made an uninterrupted recovery. Following this unique experience he made some experiments on dogs to determine whether or not it would be safe to adopt the reattachment of the mesocolon as a surgical procedure. He concludes that the colon may be safely separated from the mesentery in man, for from 8 to 12 inches, provided it is reattached by suture. If the mesocolon is not reattached the gut becomes gangrenous.

Permanent Colostomy.—Lillienthal[52] describes a method of permanent colostomy which he says he has been using for some years with perfect satisfaction. In about a month the patient attains control of the evacuations. The operation consists in bringing a loop of the sigmoid out through an incision through the outer third of the rectus, fastening one end of the loop at the upper and one at the lower end of the abdominal wound, and closing the intervening peritoneal opening by stitches which also transfix the mesocolon. The gut is now divided close to the lower end of the abdominal wound and the long proximal portion completely separated from the mesosigmoid. Division of the gut is done between ligatures to prevent soiling the wound, and the short stump is sterilized with carbolic acid. The long upper leg is now twisted around its longitudinal axis, 180 to 360 degrees, until a satisfactory constriction, as shown by introducing the finger, is produced and it is held in this position by suturing it to the aponeurosis of the external oblique. The remaining fascial wound is now closed, a rubber tube is inserted and tied in the proximal end of the gut and the remaining wound packed with gauze. The tube in the gut drains the feces into a receptacle at the side of the bed. One should read the article and study the illustrations if he wishes to understand the technic of the operation.

Appendicitis and Pneumonia.—One of the most interesting papers relating to abdominal surgery, to me, is that of John B. Roberts[53] of Philadelphia on the relation of congestion or infection of the lower lobe of the right lung and appendicitis. Many of the theories in explanation of the similarity of the symptoms of appendicitis and right-sided pneumonia are given, several interesting cases are cited and a number of references to the literature are given.

Rectal Cancer.—W. J. Mayo[54] analyzes 120 operations for cancer of the rectum done, according to various methods, at the Rochester clinic. No part of the sacrum is removed in posterior operations. For cancers within easy reach of the finger through the anus the Quenu-Tuttle operation is particularly applicable.

The combined operation will become the operation of choice in most cases with increased experience and improved technic.

The Noble Anastomat.—This is a most ingenious device invented by Thos. B. Noble of Indianapolis and presented and described at the 1909 meeting of the American Association of Obstetricians and Gynecologists in Fort Wayne.[55] By its use anastomosis between a remnant of the sigmoid and the lower rectum becomes comparatively easy and safe. After using the device in four cases Baldwin[56] of Columbus has improved the instrument by increasing its length, making it with a curve, and substituting a spring device to keep the parts in apposition for the screw in the Noble instrument.

Hemorrhoids and Anal Fistula.—The use of the anal plug after operations for hemorrhoids seems to be rapidly and, I think, most deservedly growing in disfavor. Complete excision and immediate closure is the operation of choice in fistula-in-ano in properly selected cases, and the percentage of cases to which this method is applicable is growing with increased experience. In operations for hemorrhoids and fistula preliminary treatment—through evacuation of the bowels, and abstinence from solid food for five to six days after operation are essential to ideal results.

Kidney and Ureter.—Bevan[57] says that the cause of kidney colic is intravesical tension and not the passage of the stone through the ureter, and that the passage of the stone is not due to

50. Ann. Surg., 1910, li, No. 6, p. 818.
51. Ann. Surg., 1910, li, No. 6, p. 837.
52. Ann. Surg., 1910, lii, No. 3, p. 384.
53. Ann. Surg., 1910, li, No. 6, p. 846.
54. Ann. Surg., 1910, li, No. 6, p. 854.
55. Am. Jour. Obst., February, 1910, p. 259.
56. Surg., Gynec. and Obst., 1910, xi, No. 6, p. 604.
57. Jour. Am. Med. Assn., 1910, liv, 665.

vis a tergo but to the peristaltic action of the muscle fibers of the ureter. He lays stress on the importance of team work in kidney surgery—cystoscopist, radiographist and surgeon. Bevan's death-rate in kidney stone work has been less than 2 per cent.

As a means of diagnosis the *x*-ray is coming more and more into favor. In one of my own cases the *x*-ray showed a stone which I failed to discover after frequent exploration of the ureter with both catheter and probe through a kidney incision.[58] Pyelography with collargal injections into the pelvis of the kidney is a diagnostic method of great value. Braasch gives an account of his experience with this method at the Rochester clinic in the *Annals of Surgery* for November, 1910. The frequent coexistence of bladder and kidney stones and the fact that symptoms caused by kidney stones may be referred to the bladder (Loc. cit.) makes a careful examination of the kidneys imperative in all cases of bladder stone. I can not fully agree with Eisendrath[59] who says that the indication for nephrectomy in kidney stone depends rather on the amount of kidney tissue which is left after the removal of the calculus than on the size of the stone. While in the main this is correct it should not be forgotten that large stones mean old stones and old stones may mean cancer and are apt to mean badly disorganized kidney structure. Wm. J. Mayo[60] regards the inner layer of the fatty capsule of the kidney as a very important structure in plastic work on the pelvis and upper ureter. He has been using a flap of this tissue to reinforce the suture line in the pelvis and upper ureter and has found that no leakage occurred even when the suture line in the pelvis or ureter was known not to be urine tight. Kelly has used the tissue for the same purpose with equal success.

Bladder and Prostate.—The transperitoneal route for malignant bladder growths is growing in favor. It gives opportunity for more exact and complete work and adds little or nothing to the operative risk.

McArthur[61] advises that the tears in the mucous membrane in doing suprapubic prostatectomy be made not in the bladder mucous membrane but in that of the prostatic urethra and that they be made in the long axis of the urethra. The tears should be made in both sides and their margins loosened from the prostatic lobe before commencing enucleation.

Harvey A. Moore[62] of Indianapolis has invented a modification of Young's prostatic tractor which is much easier of introduction than the latter and therefore an improvement on it. Arthur E. Hertzler[63] of Kansas City has also modified Young's tractor. Hertzler's tractor is small, curved and hollow. It can be introduced into the bladder through the penile urethra without injury and with its aid, Hertzler says, perineal prostatectomy may be done without opening the urethra and the wound closed without drainage having to be instituted because of infection.

Hernia.—This subject is thoroughly reviewed by Coley in the June number of *Progressive Medicine* for 1910. Several rare forms of hernia are reported and illustrated. Deserving of special mention is a case of congenital strangulated hernia of the intersigmoid fossa in a child three days old. Practically the whole of the small intestine was within the sac. Generally speaking in strangulated hernia if the bowel presents a doubtful aspect the safer way is to resect rather than return the bowel to the belly. Coley refers to the paper of Delore and Thevenet[64] on the subject of resection in strangulated hernia. These authors have rather radical views with which, however, Coley expresses himself as being in accord. Personally, I quite agree with them and have an impression that the majority of men of experience do. The results of Delore and Thevenet support their position fully. They did resection in twenty-nine of 166 cases. In those cases treated by simple reduction the mortality was 17.5 per cent., while in the cases treated by resection the mortality was 13.8 per cent. Coley's experience harmonizes with this.

Clinical Congress of Surgeons of North America.—This sketch of the surgical year ought not be closed without reference to the recent Clinical Congress of Surgeons of North America which was held in Chicago and proved to all those who participated so intensely interesting and so beneficial that a permanent organization was affected of which Dr. A. J. Ochsner was made president; Dr. Franklin H. Martin, general secretary and editor; Dr. Allen B. Kanavel, general recorder and treasurer; and Mr. A. D. Ballou, general manager.

58. Jour. Am. Med. Assn., 1910, lv, 1691.
59. Surg., Gynec. and Obst., 1910, x, 354.
60. Surg., Gynec. and Obst., 1910, x, 363.
61. Surg., Gynec. and Obst., 1910, x, 412.
62. Jour. Am. Med. Assn., 1910, lv, 998.
63. Surg., Gynec. and Obst., 1910, xi, 602.
64. Rev. de Chir., 1909, No. 6, p. 1153.

THE YEAR'S PROGRESS IN PEDIATRICS

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The year 1911 will go on record as a year devoted to the determination of the methods of prevention of disease in children and infants by establishing the facts that breast milk has no substitute, that proper hygienic regulation is necessary to early vigorous development, that a sound body with sound special senses are requisite for school life, that proper food at proper intervals is indispensable to normal development, that school inspection is indispensable and that mental development depends on all of these. The original investigations now being carried on in feeding, in the obscure etiology of certain apparent toxemias, in the infectious diseases, in the relief of deformities, mental or physical, following the ravages of disease, will be written in the subsequent reviews of pediatric practice. Suffice it to say that much has been done and more is sure to follow.

Diphtheria.—According to Blockman, nasal diphtheria in infants, in a large percentage of cases, is mistaken in the first days or weeks for ordinary "snuffles" or coryza. The physical examination, so easy in infants, made by simply pressing up the tip of the nose, often reveals the clinical evidence of the disease. Chronic otitis media or inflammatory obstruction of the nasal passages class these cases as the bacilli-carriers of the disease. By this inspection he was able to diagnose three out of eight cases in two families prior to bacteriologic diagnosis; in ten cases only one showed bloody discharge from the nose, and five showed a membrane on the septum. In one case the membrane persisted for over four weeks and in another the cultures were positive for three months. In a second epidemic two infants developed a diphtheritic inflammation of the navel, one dying of peritonitis. All other cases recovered under antitoxin, all of which emphasizes the importance of rhinoscopic examination in infants for the sake of the proper management of a dangerous condition.

Hereditary Syphilis.—The effects of serum taken from syphilitics recently treated by "606" on the lesions of hereditary syphilis were studied by Meirowsky and Hartman, reviewed in the *Journal of Medical Science*. The influence of the breast milk as a curative agent in mothers treated with "606" suggested the use of the mother's blood-serum. Eight injections in quantity from 2 c.c. to 20 c.c. at intervals of from one to four days resulted in the disappearance of the skin lesions, but a peritonitis developed later. The authors believe the effect of the injections would have been more marked if larger quantities of serum could have been used.

Infant Feeding.—In connection with this subject comes Langmead's report of eighty consecutive cases of wasting infants fed on undiluted cow's milk to which was added citrate of soda for the purpose of rendering the curd soft and more flocculent. Of the eighty cases, forty-one were girls and thirty-nine boys, the ages varying from three weeks to four months. All the cases were under weight when first seen and most of them showed gastro-intestinal disturbances. Two grains of sodium citrate were added to each ounce of food, the amount continued to the fifth month and discontinued entirely at the sixth month. No edema, urticaria or increase in the blood coagulability was noticed. The ease and simplicity of the method make it of value in certain cases.

Bleyer's observations on the regulation of fats in infant feeding in 600 cases rather proves that Holt could not have been entirely wrong, for he (Bleyer) says that when the fats were reduced to 1 per cent., regardless of the proteid content, the child became very hungry in one to one and a half hours, and that the number of feedings depends in great measure on the percentage of fat in the mixture.

Epidemic Meningitis in Infants.—Ernest Levy points out that the characteristic symptoms of acute onset, convulsions, and high fever, and the classical signs of rigidity of the neck and Kernig's sign do not usually appear in the meningitis of very young infants, excepting very late in the disease. Kernig's sign and rigidity of the neck are absent in from 50 to 60 per cent. of the cases under two years of age. Convulsions, which occur in so many infantile diseases, especially in spasmophilics, occur in young children with meningitis in only one-third of the cases. Intestinal irritation without fever and also inflammation of the entire respiratory tract often occur for weeks before some other definite symptom which indicates meningitis is found. Infants are especially liable to secondary infection of the lungs in meningitis, the true nature of which is thus often masked. With a few exceptions, almost all cases of meningitis in children of two years and under, Levy finds, have been treated for a variable length of time, even forty-five days, as cases of intestinal or pulmonary catarrh. Rigidity of the neck alone is a slight but fairly frequent accompaniment of these inflammations of the lung or intestine. A remittent type of fever is rather characteristic, the periods between the rises being short at first.

and grow longer as the disease advances. There is often no febrile reaction at all. Levy has not found slowing of the pulse a characteristic feature, except in some forms of tuberculous meningitis. Symptoms referable to the central nervous system, such as the patellar reflex, etc., are, unfortunately, usually absent or doubtful. However, strabismus, usually fleeting, and pupillary inequalities are among the most constant signs of the disease. Hypersensitiveness, especially of the legs, is a cardinal symptom, also are the pupillary dilatation from pain, on pinching the spine, and a reflex tremor of the whole body or of a group of muscles on setting the child erect or moving its limbs. This tremor, however, usually presents itself during or after the fourth week of the disease. Highly important from the diagnostic viewpoint are alterations in sight or hearing, such as blindness or deafness, following an illness of uncertain nature. Subsequent to such an illness, otitis media, neuroretinitis, or iridochoroiditis invariably means meningitis. In infants, a widening of the fontanelles is of great diagnostic value, as showing increased tension of the cerebral fluid.

This is often an early sign and a common condition in epidemic meningitis. Ventricular puncture is important in diagnosticating all cases showing increased tension of the cerebral fluid, as the cocci are often found here when they are absent in the spinal fluid. Lumbar puncture is essential; but as this means is not always available, and a bacteriologic examination requires time, a provisional diagnosis at least should be made from the symptom complex, so that treatment by serum injection may not be delayed (*Medizinische Klinik,* 1910, vi, 1569). Flexner's antiserum for treatment reduces the mortality in proportion to the time administered, the earlier the injection the larger chance for recovery. Dunn advocates large doses on successive days while Marsh and Williams obtained better results from smaller doses less frequently repeated. The dose varies with the age and size of the child, older children receiving 25 to 30 c.c. and infants from 7 to 10 c.c. These amounts are injected into the spinal canal or directly into the ventricles of the brain. Flexner warns against injecting more serum than has been removed. Flexner and Lewis have proved that domestic animals are not under suspicion as carriers of the contagion of the disease but that it is to be found in secretions of the nose, mouth and throat of healthy individuals or of those suffering from the disease. Hence prophylaxis must depend on serum vaccination, which has been proved to be successful, and early recognition of cases.

Cyclic or Recurrent Vomiting with Hypertrophic Stenosis of the Pylorus.—A. E. Russell supports the argument that muscular spasm of the pylorus due to hypertrophic stenosis is sometimes the cause of cyclic vomiting with its attendant conditions. He cites as an example the case of a boy, aged 4 years and 9 months, who from birth was subject every few months to attacks of vomiting with epigastric pain. The attacks appeared suddenly and lasted twenty-four hours, the vomiting recurring during the day. The child's last illness began with an attack lasting one week, during which the vomitus turned from yellow to coffee color. There was great prostration, emaciation, and the breath smelled strongly of acetone. There was constipation and the urine contained acetone and diacetic acid. Then a period of remission occurred lasting nineteen days, during which the child ceased vomiting, took nourishment and improved. The urine became free of acetone and diacetic acid. There was then a return of the vomiting and epigastric pain and after five days the child died, acetone and diacetic acid again having appeared in the urine. The autopsy showed a considerably dilated stomach. The lumen of the pylorus was very small and its walls were thickened. There was no ulcer or scar tissue present and the remaining thoracic and abdominal organs were normal. These symptoms are practically identical with those of cyclic or periodic vomiting in children. The current views as to cyclic vomiting are that it is due to a poisoning arising from the intestinal tract, with imperfect oxidation of fats and an accumulation of them in the liver. Russell argues that acute starvation accompanies this condition, as evidenced by the emaciation and the acetone bodies in the breath and urine (with the fatty changes in the liver often found in these cases). He claims that these latter conditions can be explained by the acute starvation involved with cyclic vomiting, and that the cause of the vomiting is elsewhere, probably in the hypertrophic stenosis of the pylorus. While actual stenosis of the pylorus is not an essential factor in the disease, he submits that the attacks were due to the occurrence of pyloric spasm. On this hypothesis, as long as pyloric spasm lasted, obstruction would be complete. If it persisted long enough, acute starvation would necessarily follow, with the resulting acidosis. Fatal issue followed the inanition and exhaustion. While possibly not a factor in all cases, pyloric spasm is enough to account for recurrent attacks of vom-

iting and presents all the features described as characteristic. It is also consistent with the fact that the attack often comes on suddenly. Relaxation of the spasm would be followed by this sudden cessation of the attack, which is often a noticeable feature (*Brit. Jour. Child. Dis.*, 1910, vii, 49).

Tuberculosis.—The effects of the tuberculous mother on the nursing infant and *vice versa* are summed up by Deutch as follows: Out of sixteen children nursed by mothers with active tuberculosis, five were infected and two died. Of eight children nursed by mothers with inactive processes, two were infected and one died. Four children born of mothers with active lesions, but not nursed by them, were not infected. He concludes that breast milk does not carry the infection, but possibly contains substances which break down the child's resistance, infection then occurring through contact with the usually infected secretions.

In connection with the subject of early diagnosis of tuberculosis it should be emphasized that the von Pirquet skin test is of inestimable value and is, above all things else, applicable. This test is not a subcutaneous test and unless this point is borne in mind will give no reliable data. Properly applied, it is the safest, surest method of a positive diagnosis of tuberculosis in infants and children.

Vaccine and Serotherapy in Children.—Vaccine therapy produces an active immunity to the specific bacteria, while serotherapy produces a passive immunity only. C. F. Kerley reveals the results of the two types of treatment in children; the former has given the better results in staphylococcic infections; the inoculations, varying from 7,000,000 to 50,000,000 of bacteria, depending on the child's age, should be repeated every sixth to tenth day, the opsonic index being the criterion as to when the injection should be repeated. In furunculosis and acne excellent results have been obtained by this method of treatment. Streptococcic infections do not yield so readily; the injection dose is about one-third of the staphylococcic. The course of erysipelas is shortened by the injection of streptococci; scarlet fever has not been influenced at all. In local streptococcic inflammations, such as adenitis, otitis, osteomyelitis, encouraging results have been obtained by treatment.

Pneumococcic injections have been without results; but pneumococcic empyema has been distinctly improved by vaccine injections. Flexner's serum is of greater advantage in cerebrospinal meningitis than mere vaccination. Cystitis due to *Bacillus coli communis* is shortened by inoculations with dead colon bacilli. Tuberculin is of value in chronic local tuberculosis, without constitutional symptoms (bone, joint, gland, skin and eye infections) and in chronic pulmonary tuberculosis; but in lesions associated with signs of fever, the injection of tuberculin is harmful (*Jour. Am. Med. Assn.*, 1909, liii, 1179).

Vaccine therapy calls for special mention in connection with two very frequent and often serious conditions, namely, gonorrheal vulvovaginitis and colon bacillus infections of the genito-urinary tract.

Of gonorrheal infections, G. Wallace Hamilton of New York has this to say: Vaccine therapy has a place in the treatment of this infection in little children for the following reasons:

1. The short time required for a cure in over 85 per cent. of cases.
2. The ease of administration of the vaccine.
3. The vaccine is harmless when used under aseptic precautions.
4. It is not necessary to take the opsonic index.
5. Doing away with irrigations.

Of the colon bacillus infections this much can be said: Vaccine therapy gives good results in certain cases and should always be employed when urotropin and salol fail. The comparative frequency of colicystitis or a colon pyelitis again calls for the routine examinations of urine in pediatric practice, for neglect of this precaution is most often found in the management of the diseases of infancy and childhood by the medical profession.

Infantile Diarrheas Due to Intestinal Fermentation.—Dunn in a convincing manner presents his reasons for the following classification of infantile diarrheas based on the etiologic factor: (1) nervous influences; (2) indigestion; (3) bacterial fermentation; and (4) bacterial infection. Bacterial infections follow an invasion by parasites, while bacterial fermentation depends on the action of saprophytes living in and on the intestinal contents. Following Tissier, who found that *B. perfringens* was the cause of fermental diarrhea and that lactic acid bacilli stopped its development, he gave such patients pure cultures of lactic acid bacilli. Marked improvement resulted, for in twenty-eight cases so treated twenty-three recovered completely. All of these cases failed to improve on any other plan of treatment. This emphasizes the value of buttermilk feeding in selected cases; caution, however, should be employed in its too protracted use because of its deficiency in the caloric needs of the child.

Hemorrhagic Disease in the New-born with Direct Transfusion.—The case reported by Swain, Jackson, and Murphy was that of an apparently normal new-born baby, whose paternal grandfather had died of pernicious anemia and one of its cousins of melena neonatorum on the fourth day of life. The baby had nursed normally and had a good meconium movement before going to sleep. It woke up with a sharp cry, and the nurse found its clothes and bed saturated with a bloody stool, there being about 10 ounces of fluid blood.

This was repeated several times, the blood being slightly thicker than normal blood. Fresh rabbit serum and diphtheria antitoxin did not check the bleeding; to the bloody stools being added bloody vomiting and hemorrhagic spots beneath the skin. The child was *in extremis* when direct transfusion from the father's radial artery to the child's internal saphenous vein was employed. The flow of blood was permitted to continue for five or six minutes, terminating in complete cessation of the hemorrhage. The child recovered perfectly. No cause can be given by the author, but the defect was probably not in the vessel walls, as is usually stated, but rather in the failure of the blood-producing mechanism, which was remedied by some part of the normal blood which was introduced into the circulation (Boston *Med. and Surg. Jour.*, 1909, clxi, 407).

Perhaps nothing in the year is of more value than the work of John Edgar Welch on the effect of human blood-serum as a curative agent in hemophilia neonatorum. Because of an anaphylaxis which follows the injection of alien serum terminating fatally in the hypersensitized subject he began the use of the human serum and asserts that "in normal human serum we find an agent that successfully controls hemorrhage in the new-born." Fresh normal human blood-serum is bactericidal and whether the hemorrhage is due to hemophilia or a bacteremia the normal human serum is still an effective therapeutic agent. The control of the hemorrhage may be due to the nutritive effect of the serum, a perfect food, on the body tissues of an infant. A thrombokinase may be supplied, which has been produced experimentally, and which controls hemorrhage when applied locally. The dose varies with the severity of the case, 10 c.c. injected subcutaneously every four hours in moderate cases while in severe cases 10 or 20 c.c. every two hours. Welch advises that the treatment be begun early since slight hemorrhage from the cord may be accompanied or soon followed by fatal internal hemorrhage. The blood must be obtained by a special apparatus which is illustrated in the *American Journal of the Medical Sciences*, June, 1910.

THE ADVANCES IN BACTERIOLOGY AND PATHOLOGY DURING 1910

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The year 1910 has been characterized by activity in research work, along the lines of immunity, bacteriology and single-cell pathology.

Important advances have been made along these lines in such volume that an attempt can only be made to mention briefly some of the most important achievements. In this progressive age great discoveries and achievements are usually accepted with scarce a flutter of the pulse, and we feel disappointed if, when perusing our morning paper, we do not find some achievement out of the ordinary. During the last year, however, there came a report from Germany, the mother of medical science, that made even the most *blasé* sit up and take notice. This was the report that Ehrlich and Hata had discovered a chemical that would cure syphilis with a single dose. Marvelous as this may appear, the evidence so far is almost without exception in favor of this magical result of treatment by the compound known as "606." This compound, of which the chemical name is dioxydiaminoarsenobenzol, is an organic arsenic preparation and is given by hypodermic injection. By its use the specific organism of syphilis, the *Treponema pallida*, disappears from specific lesions within forty-eight hours after injection of the drug. The action of the drug is thus explained: in immunotherapy the various antibodies in the blood are stimulated to growth and activity by injections of bacterial products. These antibodies are not harmful to the individual and exert their specific action on the invading bacteria.

This principle cannot be applied to parasitic invasions, since our present knowledge does not include growing parasites artificially, and so Ehrlich conceived the idea of substituting chemotherapy in place of immunotherapy. For several years he has been experimenting with empirical organic compounds of drugs, like arsenic, and has found that some of these preparations, when introduced into the blood, exert their specific arsenic action on invading parasites with a minimum of harmful action on the host. The

first he called parasitotropic, the second organotropic. After over 600 experiments Ehrlich found that the 606th compound, dioxydiaminoarsenobenzol, when used in proper dosage, would exert such powerful parasitotropic action on the *Spirochæta pallida* as entirely to overshadow the organotropic action on the host and therefore make the latter a negligible quantity. The technic of these injections is essentially accurate laboratory technic coupled with hospital facilities for asepsis and observation; and like facilities for the proper preparation of the drug just before its use. In Ehrlich's latest instructions concerning the use of "606" (also termed salvarsan), he says that over 40,000 doses have been distributed and reports received concerning their use, and that the period of experimentation as to effect, dosage, mode of preparation, etc., has passed, and now remains to be observed the second stage, or that of permanent results. It has been found that the most efficient methods of injection are: (1) by the intravenous route; (2) intramuscular injection of an alkaline solution; (3) the very painful acid injection, and (4) the neutral emulsions. If the Wassermann test, which is used to control the results, does not become entirely negative in two or three weeks, the intravenous injection may be repeated.

The alkaline method of injection is as follows:

Into a graduated glass cylinder with a glass stopper and containing some glass beads to assist in mixing, add "606" salt; immediately add 15 c.c. hot water, shake vigorously until every particle of the salt is dissolved; then add 2 c.c. normal sodium hydrate (NaOH) solution, which causes a precipitate to fall. Then continue adding the normal sodium hydrate solution in very small quantity until the fluid begins to clear, shaking vigorously after each addition; then drop by drop until we have a clear solution.

This should be nearly neutral. Fill cylinder up to 20 c.c. mark with sterile water and inject 10 c.c. of this solution deeply into the buttocks rendered aseptic by soap, water and iodin rubs.

Patients should rest in bed for an hour or two after each injection.

The method for intramuscular injection is as follows:

The drug, which is put on the market in vacuum tubes and in the form of the hydrochlorate, is poured into an agate mortar, and 2 c.c. of normal sodium hydrate solution added. This is rubbed up as fine as possible and then made neutral by adding 1 per cent. acetic acid solution or one-tenth normal sodium hydrate solution as necessary to make it exactly neutral to litmus paper. It is then poured into a centrifuge tube and the mortar washing with normal salt solution added; then centrifuged and the supernatant fluid drawn off. The resulting sediment is suspended in about 10 c.c. of normal salt solution and injected.

The intravenous method of Schreiber is as follows:

Into a 250 c.c. graduate drop 10 to 20 c.c. of sterile water. Add the required dosage of "606" (0.5 to 0.8 gm.) and mix thoroughly until there is a clear solution; then add warm normal salt solution up to 100 c.c., then normal sodium hydrate solution in proportion of 0.7 gm. normal sodium hydrate to 0.1 gm. of "606"; mix thoroughly until precipitate redissolves. If not then clear, add a few drops of sodium hydrate solution until clear, then add warm normal salt solution up to 200 to 250 c.c.

This is injected intravenously with strict asepsis and with special syringes to avoid introduction of air.

Another striking feature of the year's work was that done by Flexner and Lewis, in the laboratories of the Rockefeller Institute for Medical Research, on the pathology and bacteriology of epidemic poliomyelitis.

In a contribution of Sept. 24, 1910, they report the progress of their work and the conclusions so far established. Simultaneously with Landsteiner and Levaditi they discovered that the infectious agent was an extremely minute microorganism which readily passes through earthenware filters like the Chamberlain or Berkfeld, and therefore constitutes an example of the so-called filterable viruses, of which several are now known. They found this virus quite potent and very resistant to external influences. It is unaffected by freezing but injured by heat as low as 45 C., is easily destroyed by simple disinfectants, like menthol or peroxid of hydrogen. They propagated a strain of this virus through twenty-five generations of monkeys and the potency rather increased than diminished during the transmission. They were not able to grow the organism outside the body. They found that the virus could be introduced into the monkey in several ways: by the blood, *sub cutem* and through certain mucous surfaces, and especially the mucosa of the nasopharynx, which they believe is the point of entrance and exit of the infection in the human being. They concluded, however, that it may yet be found that poliomyelitis, like meningitis, may arise from several independent causes, but that epidemic poliomyelitis, like epidemic meningitis, is always produced by a specific microorganism. In studying the pathology

they found that the disease was not limited to the anterior horns of the gray matter of the cord, but involved all the gray matter and extended into the medulla and brain itself. The lesions were characterized by congestion and hemorrhage of the gray matter together with round-cell infiltration, especially around the blood-vessels. This infiltration is in the adventitia. In the meninges, however, the infiltration is always interstitial, and does not produce exudates on the surface of the cord or brain. The gray matter of the cord shows lesions in both anterior and posterior horns, the anterior, however, being the more extensively involved. The nerve-cells and ground substance often show more or less extensive degeneration and necrosis. The brain and medullary lesions were not as extensive as the cord lesions.

Their studies on monkeys showed that one attack of the disease usually produced an enduring immunity. They then sought to produce an active immunity by injections of serum. For this purpose they used modified virus, which was immersed for a long time in glycerin, regarding it as probably a qualitatively-modified virus, changed by action of chemical or physical agents. With this they succeeded in making successful immunizations in the monkeys, but they do not as yet feel justified in attempting to produce an active immunity in the human being.

In the realm of tumor pathology nothing very striking has been done during the year. There have been some interesting studies in tumor cell growth, and at the Rockefeller Institute and elsewhere there has been some measure of success in attempts to grow tumor cells outside the body, the chief apparent interest in these experiments being the light they throw on the primary, individual cell life. Experiments have been made on tumor transplantation, and it has been found that they can be readily transplanted in the same individual by autoinoculation, some varieties of tumors having been transplanted into other members of the same species (of animals) or in individuals closely related. These facts indicate specific relationships and chemical adaptations existing between the body cells and the circulating fluids of varying degrees of specificity in families or species. Some individuals of the same species have been found to be naturally immune to tumor growth. Other animals have been rendered artificially immune by inoculating them with cells from normal organs or with tumor cells from other species of animals. A very potent immunity has been produced by inoculating living tumor material whose vitality has been lowered by heat. So by animal experimentation it has been proved beyond doubt that immunity of varying degrees exists as the protective force of the animal organism against tumor formation; also that if heredity plays a rôle in tumor production, it does so by developing an hereditary predisposition characterized by low immunizing power of the circulating fluids of an individual or a whole family. Nevertheless it cannot be gainsaid that chronic irritation is being recognized more than ever before as playing a very large part in the development of cancerous growths. The mammary gland, uterus, lip, and now the prostate are found to be correspondingly the seats of long continued chronic irritation and high percentage of cancer production.

The year has shown a development of a general tendency on the part of investigators to study the physiology and pathology of the individual cell. According to Mallory the histology and differentiation of tumors should depend on the study of the cell type. In his new classification of tumors, he says that every type of tumor is due to the proliferation of some certain type of cell, and that the blood-vessels, nerves and stroma therein are not part of the tumor. He believes that the type of cell, gives the name of the tumor and that the rate of growth, arrangement of cell, invasion of surrounding tissues, metastasis, and retrograde changes are secondary features. Thus he groups all epithelial-cell tumors under one head, whether benign or malignant, which class form the largest and most important class of tumors. This group is subdivided into types of growth having as their differential points, his so-called secondary features. It may be said that it is not possible to establish a sharp and positive border line between the different subdivisions as to their malignancy. Certain benign tumors may be just on the border line and may at any time invade the surrounding tissue. For instance, when the cells of the breast glands grow expansively or in papillary form but leave the smooth muscle layer surrounding the gland intact, they are benign, but the instant they break through this smooth muscle layer they become malignant. These tumors are *on* the border line when the growth into the lumen of the tubes, whether it is papillary or expansive, is active; and when the gland tube is full, the cells must either break through or atrophy from pressure. So that such a benign or border line tumor, and especially the papillary type, may be benign to-day and malignant to-morrow, depending on whether or not the cells have broken through the smooth muscle layer

and are invading the surrounding tissue. Cases of these border line types therefore need careful study and a clear understanding of their possibilities, both for the pathologist and surgeon, having it clear that there is no sharp dividing line between adenomas, papillary adenomas and carcinomas. Finally, from a pathalogical standpoint, a tumor in which the type cell is epithelial, and which infiltrates, and which is capable of forming metastasis, is a cancer.

The infiltration may only be beneath the lining epithelium of the gland, but it is nevertheless the beginning of a cancer.

Another interesting study was that of Pappenheimer on tumors of the pineal gland. Hitherto this ductless gland has been an unknown quantity to physiologists and pathologists and like all other parts of the body whose purpose we do not know was usually regarded as superfluous. The light of research, however, shows that this view of apparently useless organs is unwarranted, for we are finding out little by little that each has its own important function in the human life. He was able to collect and review the literature of thirty-eight cases of tumors of the pineal gland, which list included cysts, teratomas and hyperplastic growths, and representing both destruction of gland tissue and hyperplasia of gland structure. From the study of the symptoms caused by these opposite types of lesions, he found that this gland has an inhibitory influence over development of sexual function. The same sort of studies have been made of other ductless glands by various observers and the conclusions are as follows: Tumors of the adrenal cortex have been found associated with precocious sexual development, similar to those of the pineal gland. On the other hand persistent thymus is usually associated with infantile genitalia and removal of the persistent thymus is followed by the normal development of the sexual organs. Tumors of the pituitary body are sometimes accompanied by loss of function of the testes or ovaries.

Tumors of the hypophysis cerebri are associated with polyuria, and their removal causes the polyuria to disappear. Summarizing these ductless gland studies, it seems evident that they furnish diverse forces whose total resultant is the building of, first the individual and second his offspring.

The use of autogenous vaccines has become a valuable and permanent feature of our immunotherapy. The use of the opsonic index has been generally dropped and dependence is placed more on the clinical symptoms as an index of improvement. The vaccines are not only being generally used for treatment but have found a valuable place as a prophylactic agent in immunization against such diseases as cholera, plague, dysentery and typhoid. In the antityphoid inoculations a dose of 500 to 1,000 million dead typhoid bacilli are injected, either one or two doses as thought necessary. For treatment the autogenous vaccines are much to be preferred over the stock vaccines, and such conditions as furunculosis, carbuncle, acne, infection of the urinary tract, colon bacillus infections, fistulous tract infections, chronic gonorrheal lesions, and many other localized infections have been found quite amenable to this form of treatment. It must be thoroughly understood, however, that vaccines are not cure-alls. There are several very important facts about their use that must be remembered: first, whenever pus exists, it should be evacuated, vaccines will not remove it: second, theoretically, cases already overwhelmed by a generalized infection, cannot be expected to be favorable ones for vaccine treatment; third, streptococcic infections are least amenable to this treatment: fourth, the vaccine injections must be given in proper dosage and not too close together, for it is possible, by giving large doses close together to establish a continuous negative phase, and the patient will continue to get no better fast: finally, do not use the vaccines as a last resort, and if the patient dies conclude that vaccines are no good. For the reason that the gonococcus is so hard to isolate and cultivate, and having in mind both the efficacy of the vaccine treatment and the practicability of the method of Wilcox and Morgan of injecting sterile leukocytic emulsions, we have been using in our own laboratory this year for vaccine treatment, sterile emulsions of gonorrheal pus, taken at the acute stage. This has so far proved of greater value than the vaccine alone, in the treatment of chronic gonorrheal infections.

The Calmette tuberculin test which was so popular last year has been practically discarded, in favor of the Von Pirquet or cutaneous test, while the injection method still holds first place for reliability. There have been some important studies within the past year on the staining qualities of the tubercle bacillus. Tint and Bresman in experimenting with pure cultures of the tubercle bacillus found that the individual bacteria had varying resisting qualities to the ordinary differential stains for acid fast bacilli. They divided them into three classes; first, the resistant, in which acid did not affect the red color; second, the semi-resistant, partly decolorized by

acid; third, non-resistant, those that were decolorized completely by acid. They concluded that no single decolorizing agent at present employed would stain uniformly all the tubercle bacilli present in any given lesion. (This difference in staining quality has been found by the writer also true as regards their resistance to alcohol.)

The diagnosis of typhoid fever by blood-cultures is being used quite extensively, in conjunction with the Widal test. By the culture method, the disease can in most cases be diagnosed in the first week.

The Wassermann test for syphilis has found favor and apparently has come to stay. So far no single modification of the original test has entirely succeeded in supplanting the original test, although the Noguchi modification has been popular in America on account of its simplicity; nevertheless, it must be conceded that there is much more possibility of error in its use. The longer this test is used the more apparent it becomes that, on account of its extreme delicacy as regards accuracy, it must only be used by laboratory workers who have had considerable training in its workings, and even then several tests are sometimes necessary before making a final conclusion. A case must have at least two negative tests six months apart before it can be pronounced cured.

Done accurately, this test is of extreme value, but on account of its delicacy one must have had a month or more of training in some laboratory center, where many tests are being made, before he can be competent to do this test with any degree of reliability, notwithstanding the misleading statements made at our last state meeting. The *Spirochæta pallida* or rather the *Treponema pallida* has been accepted as the parasite or specific factor of syphilis. It can be found in 84 per cent. of chancres, in moist papules, tonsils, mucous patches and skin lesions of various kinds. This method of diagnosing the disease should receive more general use. A word of warning has been sounded in the use of the India ink method of staining this parasite, for it has been found that some inks contain wavy fibers that could easily be mistaken for the spirochete, provided one was not expert in its use.

So much has been written about pellagra during the last year, and its causation from maize, that it is interesting to note that the opinion is gaining ground that maize is not the etiologic factor. Sambon of the Pellagra Investigation Committee asserts that he has proved to his satisfaction that the disease is carried by the sand fly. If this be true, then we must look for a bacterial or parasitic agent in this disease.

The Cammidge reaction, as a test for pancreatic diseases, has been found to be entirely worthless and even Cammidge himself admits that the reaction is not pathognomonic, but thinks perhaps it is of clinical value. The test will no doubt be entirely discarded.

The study of brain cell degeneration, as the result of shock, fright, toxemias, etc., has been taken up by Crile and others and promises to be a field furnishing interesting developments, both as regards sudden deaths following operations and as throwing much light on the symptomatology of toxemias.

In connection with the serum treatment of various diseases, there has been considerable study of the so-called serum sickness and anaphylaxis. These conditions are occasionally met with in the use of animal serums in the human body and should be familiar to every physician. The danger of the use of animal serums is anaphylaxis, which may produce grave symptoms and death, especially if a third dose is given within a few days. Discomforts following the use of injections of antitoxins of diptheria, and tetanus are not infrequent. Welch states that in 1906, there were nineteen cases of sudden death following the use of animal serum, and Von Pirquet is of the opinion that 20 per cent. of individuals receiving injections of animal serum will exhibit symptoms of serum sickness after eight to twelve days. The symptoms are usually, irregular fever, migrating rashes and urticaria, local edema, intense itching; erythematous rashes of the skin may follow in two or three weeks, tender lymph nodes, swollen, red and painful joints, occasionally albumen and casts in the urine and hemorrhages from the mucous membranes. The great danger, however, is the condition, anaphylaxis, which follows the second injection. When a second injection of animal serum of the same kind is given to a patient so sensitized, by the first dose, there follows sudden dyspnea, cyanosis and death, provided the second injection is given *after an interval of ten days or more.* Fortunately this condition of anaphylaxis is rare in man. If a second injection of animal serum in the form of antitoxin or otherwise be indicated, and attention is given to this point, *that the interval between the two injections be under ten days,* no trouble of this kind will follow and the second injection brings about an immunity to anaphylaxis. The investigations on this condition, made on animals, show that after an animal has received a single dose of an

alien protein, there appears a substance in their blood which renders them sensitive to that protein.

This is called the "reaction body" and it unites with the protein injected later, to form a poisonous substance the "anaphylatoxin." The symptoms produced in reacting animals are the same with varied proteins, and it therefore seems possible, that the poison is the same no matter what protein is injected. This reaction will ocur not only in the animal, but can be produced in a test tube, with suitable quantities of the sensitized animal blood and protein, the resultant combination then injected producing the same poisonous results. After an animal has survived a second or intoxicating dose of the protein it is commonly found to be no longer susceptible, and the stage of antianaphylaxis is established. It is quite apparent that the size of the first dose is not material, since the condition has followed injections of the different immunizing serums, in practice, but it has also been found, by experiment, that a very minute quantity of the protein will sensitize the animal. Hutinel reports several cases of serious symptoms and death following the injection of antimeningococcus serum, which was given in 25 to 30 c.c. doses, each dose being three, five and forty-five days apart. Hutinel gives the valuable information, that ether and alcohol seem to confer a briefly transient immunity against anaphylaxis, adding that there is a notion, in northern France, that persons eating poisonous mussels are relieved by the ingestion of small amounts of ether. He suggests this treatment in anaphylaxis.

THE YEAR'S PROGRESS IN MEDICINE

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TUBERCULOSIS

Among the great diseases tuberculosis naturally attracts our first attention. No radical progress has been made in the pathology, diagnosis, or treatment of tuberculosis during the year. We are just now "marking time" while studying closely every phase of the tuberculosis problem, and hopefully awaiting better things. The discussion over the relation of bovine and human tuberculosis, reawakened by the Washington Congress in 1908, continues. Opinion grows stronger and more general that Koch went too far in minimizing the danger. Measures for the stamping out of the disease among cattle and for the protection of the milk-supply continue unabated, for the safety of human beings as well as for the conservation of the cattle industry. Nevertheless, Koch's statement that pulmonary tuberculosis in men is practically always of human origin remains unassailed.

Everywhere emphasis is being laid on the frequency of tuberculous infection in early life and the importance of guarding children against such infection. These views are being constantly strengthened by the work of the tuberculosis dispensaries, revealing the terrible frequency of childhood infection in the homes of indigent and ignorant consumptives.

Yet we must not, because of such revelations, hide from ourselves the fact that even down to old age the danger of such infection is imminent.

The most interesting and pressing new question in the diagnosis of tuberculosis still centers about the tuberculin tests. The eye test has largely fallen into disuse, for obvious reasons. Yet there are good authorities who still hold to the view that a positive eye-reaction comes nearer than any other to indicating an active or clinical tuberculosis.

The Moro-inunction and the von Pirquet scarification tests are the simplest, easiest, and most harmless ones, but they are so often positive as to be, in general, of but minor value in making a practical diagnosis except in childhood. Since they are positive in about 70 per cent. of all adults, they are evidently too delicate for general reliance. The older hypodermic test, properly applied, is after all probably the most reliable one, though of but limited value in human clinical medicine. It retains the peculiar usefulness, as well as danger in careless hands, of producing a local or focal reaction, thus revealing the tubercular nature of doubtful local lesions. This is especially true, as Osler has pointed out, in diseases of the kidneys, bladder, bones, joints and glands.

Contrary to the view often expressed, the tuberculin reaction is held by most of the best authorities to be a specific one, its uncertain practical value being due to its impractical delicacy. However, in old, fibroid or "healed" cases, the eye and skin tests may fail, and the hypodermic test may require relatively large doses to secure a positive reaction. So, too, all the tuberculin tests may be negative in very advanced or moribund cases. But this is not of great practical importance. Bearing these facts in mind, it may be said in general that a persistently negative result is of greatest clinical value. In the interpretation of positive reactions, knowledge, experience, and discriminating judgment must

combine with clinical methods. All observers agree on this.

In the *Archives of Internal Medicine* for December, 1910, Hamman and Wolman complete their study of 1,500 tuberculin tests. The article is worthy of careful reading as being about the latest and one of the best extant. They summarize by stating that the specificity of the reactions is now well established, in the sense that only patients who have at some time been infected by tubercle bacilli can react; that a persistently negative result is of value in all persons, with the exceptions above noted, but especially in children; that positive reactions are also of special value in children; that a positive eye-reaction under weak solutions is of the greater value as indicating an active lesion; and that in pulmonary disease the hypodermic test should not be pushed to the production of recognizable focal reactions.

After studying the various tuberculin tests in over 500 cases in private practice, I believe them to be, when discriminatingly applied and judged, of much value, in not a few cases of inestimable value. But they are always to be combined with clinical methods, just as are bacteriologic examinations, urinalysis and examinations of the blood.

In the treatment of tuberculosis there is nothing really new. The hygienic-dietetic treatment, with constant fresh air and rest as its main factors, remains the best, whether applied at home, in health resorts, or in special institutions. We have passed through the wave of sanatorium enthusiasm and are now, to borrow a pathologic term, in the negative phase. A remarkable apathy toward the sanatorium treatment has come over the profession and the public. The reason for this apathy is not difficult to discover. The 40 and 60 and 80 per cent. of "cures" have not materialized and the profession and the public have found it out. The fact is that but few indeed, almost none, are really cured of tuberculosis in the sanatoriums or by any known means in any time less than one to several years. A prominent and able physician, from another state, in addressing a popular audience in Indiana two or three years ago, spoke glibly of thirty-day, sixty-day and ninety-day "cures." As in political, so in medical reforms, we are too prone to go by fits and starts—now up, now down. And so it has seemed almost necessary to sound the tocsin and burn red fire in order to move the people to action which ought to be taken under saner impulses. The one private sanatorium in Indiana, well conducted and doing excellent work, goes along with ten to twenty patients, because the profession and the public do not really believe it can do what others say it can and should do. If we really believed what we have published broadcast, Indiana would to-day have a score of such sanatoriums full to over-flowing. When we get back to sober sense and facts we shall give the sanatorium the chance which we have not given it, and uphold its hands in the way it merits. An intelligent and sufficiently prolonged course of sanatorium treatment affords to many patients the best prospect of arresting the disease, training them in self-help and in cooperation with the physician, and of putting them on the best road to recovering and retaining health. As we understand this for ourselves and teach it to our patients, the sanatorium will come into its own and its work be appreciated and utilized as it is not now.

The tuberculin treatment remains about where it was a year ago—in the air to the average doctor; and no wonder, for the authorities are not agreed upon it. Two distinct schools of practice are in vogue. The one, following the work of Wright on the opsonic index, adheres to small doses. The other, following Trudeau, gradually increases the dosage almost up to tolerance. Some give the remedy continuously for many months or several years: others give "courses" of a few months' duration with intervals of several weeks or months of rest. The difference in practice is evident when it is seen that the maximum doses of the two schools vary between about one and five hundred milligrams. There is a wide difference of opinion also regarding the exact manner of its beneficial action or actions. But the majority of experienced observers believe that it has, in properly selected cases, a distinct value, and all are agreed that its curative influence is indirect.

Tuberculin belongs among the antigens—agents which, under favorable conditions, excite the formation of antibodies. The writer is accustomed to leave this statement with senior medical students: "Tuberculin is not of itself and directly a protective or curative agent against tuberculosis; it is an agent which tends to stimulate the body to produce its own protective agents." With this statement in mind, and bearing in mind the natural history of tuberculosis in human beings, it is not difficult to grasp the general rules for tuberculin treatment: its administration to those capable of responding beneficially to an antigen; the small beginning dose; the avoidance of reactions; the abstinence

during a clinical negative phase; and the necessity for prolonged treatment. It is useless, says Lawrason Brown of Saranac, to expect much from tuberculin treatment extending over a few weeks or months. The statistics of the Saranac and the Winyah Sanatoriums, extending now over many years, strongly indicate that those who have had a proper course of tuberculin treatment are less likely to relapse than others.

There is no radical difference between the various forms of tuberculin. The physician may, therefore, spare himself perplexing questions on this score. Anyone can easily and cheaply prepare the materials for himself by providing himself with the original stock solution and a milligram pipette.

After some fifteen years' use of the tuberculin treatment, the writer believes it valuable as an adjunct to other means, though he has as yet no settled opinion covering its whole manner of action. But this much is certain, that he who relies upon it alone, or applies it haphazard as the long sought cure for tuberculosis, will be grievously disappointed.

TYPHOID FEVER

Typhoid fever shares with tuberculosis and syphilis a place in the trio of great diseases furnishing the widest field for clinical study and the acquisition of broad training. Its diagnosis constantly tries our skill and resources. The Widal test has come into universal use and reliance, but since it is usually negative or doubtful during the first week, and often longer, the blood-culture is gradually taking precedence over it when proper laboratory facilities are available. In order to find the bacilli as early as possible a liberal quantity of blood must be added to the culture material; but this also adds a quantity of the antibodies which may interfere with successful culture. This difficulty is being lessened by improved methods which need not be here discussed, but which are making the early blood-culture diagnosis more reliable. The Widal test, however, remains the quicker and the easier for the average worker, and a recent publication of Bass and Watkins in the *Archives of Internal Medicine* for December, 1910, promises, if confirmed, a simplification, making the agglutination test available to the average practitioner at the bedside within a few minutes.

An eye test for typhoid, similar to that for tuberculosis, has been devised and put to practical trial with varying verdicts, but it has not come into common use.

The feeding of typhoid patients has come under review of late, with the resulting proposal of a somewhat radical change in the quantity of food given. These patients usually lose a great deal of weight. The advocates of the new system, figuring on the number of calories necessary to maintain nutritional equilibrium, demand more food for the typhoid patient. This, however, is not to be attempted by simply giving a larger quantity of this or that food, as milk or albumen water, but by distributing the necessary number of calories, about 4,000, among several available foods according to the ability of the average patient to properly handle them. The necessary number of calories cannot usually be given in one kind of food, like milk, but by distribution the desired result can be attained. Milk, cream, eggs and milk-sugar are the foods selected, of each about a certain number of calories for the average patient. By this method it is possible to bring typhoid patients through with little or no loss of weight. The matter is discussed in detail by Warren Coleman in a paper read at the Atlantic City meeting of the American Association in 1909, and published later in the Association *Journal*.

The question of purgatives in typhoid fever is still under dispute. The general tendency among close students of large numbers of cases is certainly against their use. Graves long ago stated that those patients were least likely to have severe diarrhea and other intestinal complications who had escaped the customary preliminary purgation. Having been led many years ago to watch this point, the writer is in hearty sympathy with Graves' opinion. There are those who practice systematic daily purgation with the milder agents such as castor oil or salines, believing that it safely depletes the alimentary tract and its adnexa and is the best method of eliminating toxins. The latest published reports from the Johns Hopkins hospital, based upon a study of 1,500 cases, has resulted in the general rule: no purgatives in typhoid while there is fever.

It is impossible to dogmatize where good men disagree, but it is well to remember that from start to finish typhoid fever in its intestinal features is not a disorder of the intestinal contents but a disease of the intestinal wall. For some years the writer has experimented with daily doses of two or three ounces of liquid petrolatum, not as a purgative but as a simple intestinal lubricant. It may be flavored with one of the essential oils, mint, wintergreen or sassafras, and intestinal antiseptics such as salol, guaiacol carbonate, or thymol, may be suspended in it. It seems to be unirritating and harmless, and to act well, largely doing away with a demand for purgatives or even enemata.

In the treatment of the indigestion, distension, pain, diarrhea, and hemorrhage, we are too prone to turn at once and to rely too exclusively on drugs for correction, rather than to try to remove the cause by regulating the quantity, quality, or method of administering the food. It is striking to see how often these disorders will quiet down under such regulation or a day or two of partial or total starvation. Hospital clinicians have constantly to admonish the best of untrained interns upon these simple but important points in the management of typhoid fever.

Everyone now knows that bathing is the best antipyretic, but it is worth repeating and emphasizing that most typhoid patients, though on a liquid diet, do not get enough water to drink, and that the only way to insure this is to give specific orders as to the amount. These things are of the great simplicities of clinical medicine, but they are always to be kept in the foreground.

Vaccines and various antitoxic and antibacterial serums have been under trial in the treatment of typhoid fever, but none has been proved to be of much value. But preventive vaccination with dead typhoid bacilli has been steadily rising in professional confidence. The statistical showings have become more and more convincing that we have in this procedure a valuable prophylactic. Having followed several thousand cases of voluntary vaccinations, the United States Army medical authorities are now contemplating making it obligatory in the regular army. The same situation prevails in some other countries. It seems highly probable that the next war will see its extensive application, and that this, together with modern camp hygiene, will put an end to the dreadful typhoid epidemics which have been the scandal of even recent military history. It is also apparently soon to become a pressing question whether such antityphoid vaccinations may not become common practice in other than military circles, for instance in prisons, insane hospitals, medical schools, among nurses and hospital residents, and wherever a special typhoid epidemic threatens. The procedure appears to be practically harmless; not more inconvenient than an ordinary vaccination against small-pox; the protection to last for at least one or two years and perhaps longer. How far the phenomenon of anaphylaxis may appear and interfere with subsequent revaccinations, is as yet uncertain; but it is claimed to be a negligible factor. We shall probably see important developments in this whole matter in the near future.

SYPHILIS

The Wassermann test in the diagnosis of syphilis has come to be more and more widely used. In connection with the trial of the new Ehrlich treatment in Europe, it seems to have been accorded entire reliance. With the Noguchi and other modifications, it is gradually being simplified and made more practicable. Our state laboratory has kept in close touch with it and made it available to the Indiana profession. It covers a wider scope than the bacteriologic examination, since like the tuberculin tests it may reveal the old and indolent disease. Requiring, as it does, considerable work and expense, it is desirable at present that the public laboratory be called upon only in obscure cases or in connection with scientific experiments.

The definite diagnosis by the identification of the spirochetes in the lesions has rapidly grown. It is now done as a routine measure by many practitioners, especially those who have much to do with syphilis. With the oblique illumination method beautiful demonstrations can often be made within a few minutes. We have certainly reached the point where syphilis is being robbed of much of its obscurity, and clinical medicine is promptly taking advantage of the pathologic advances.

In the treatment of syphilis the last year or two has seen the growth in favor of the more intense methods, especially the intramuscular injection of mercury. The salicylate seems to be the preparation of choice by most American authorities.

But chief interest during the past year, and especially during the last few months, has of course centered about the new remedy of Ehrlich, dioxy-diamido-arseno-benzol, briefly named arseno-benzol, salvarsan or 606. This agent is an arsenic compound, the product of a series of experiments whose purpose was to find a form of arsenic which would be least organotropic and most parasitotropic. The nearest approach thus far to this ideal seems to have been found in arseno-benzol. In rabbits, inoculated with syphilis, the drug given by injection brings about an astonishingly rapid disappearance of the spirochetes from the local lesions. An almost similar result seems to be produced in the lesions, especially the earlier lesions, of human syphilis, and with a corresponding rapidity in healing. Measurably similar results have been produced with the older arsenic compound—atoxyl—but accompanied by greater toxic effects. All other arsenic compounds appear to be more organotropic than the new one.

Many thousands of cases have been treated in Europe, and a limited number in this country. A small supply has been under experiment in the Indianapolis City Hospital, the work having been done with the utmost care and with every scientific adjunct. The remedy is not at this writing available for general use. It has been patented, the profits to be divided between the one licensed manufacturing firm and Ehrlich's laboratory. The explanations and apologies for this are rather specious, and it can hardly be considered other than unfortunate that it is thus to be promulgated as a proprietary remedy. Not so the discoveries of Jenner, Lister, Pasteur, and Koch!

The general claims for the remedy seem to be substantiated, especially the immediate curative effects. Whether the apparent cures will be lasting, remains for time to tell. In view of the professional and popular furor over it, it is perhaps well that this is so.

Conservatism is already beginning to show in the later reports, and Ehrlich is to be credited with insisting upon certain specific precautions. In the midst of the announcement of startling results it is well to remember that in many similar cases almost equally marvelous improvement is an old story under the efficient application of the time-tried antisyphilitic treatment. But, in spite of the somewhat questionable manner of promulgation, it is sincerely to be hoped that in the new remedy may be found a distinct advance in the treatment, and with it in lessening the spread, of this one of the great infections.

RABIES

Rabies continues to spread in this and other parts of our country. The diagnosis by the discovery of the Negri bodies has become a routine measure in many laboratories, resulting in prompt institution of the Pasteur preventive treatment and thus in the saving of many lives. But it is probable that radical measures may have to be taken in the control of dogs if the spread of the disease is to be stopped. The materials for the Pasteur treatment are now supplied to the private practitioner by several reliable laboratories, and public institutes for the treatment of the poor are advocated by many.

CHOLERA

This great oriental plague has again been ravaging eastern and southern Europe, and has reached our eastern seaboard. Here it was promptly checked by the modern quarantine methods, and we feel assured that never again will cholera gain effective entrance into our land. In the therapeutics of the disease there is nothing new, but time seems to confirm the earlier reports of Haffkine and his followers as to the efficiency of the preventive inoculations as practiced extensively in India.

RHEUMATISM AND ARTHRITIS

When we consider the multitude of cases of arthritis, together with the more or less obscure forms of disorder of muscles, ligaments, tendons and fasciæ, all liable to be covered up under a diagnosis of rheumatism, a few words on this topic may not be out of place.

There is a disease having its special manifestations in the joints, with a specific tendency to involve the heart, now commonly believed to be a specific infection. Its first attacks usually come early in life, before the twenty-fifth year, and like erysipelas one attack seems to pave the way for others. It yields such a control to salicylic acid and its compounds as to make that drug merit the term of specific. So true is this that in any case of failure within a few days the diagnosis should be at least questioned. It may, however, be added that with the recurrence of the attacks, and, therefore, in general with the advance in age of the patients, this control by salicylates becomes less marked. Why, we do not know; unless it be that, in accord with clinical observation, the tendency to specific self-limitation diminishes with successive attacks, and the salicylates are robbed of the opportunity to efficiently exhibit some as yet unknown peculiar property. Speculation is here temptingly interesting, but vain.

This disease is acute articular or inflammatory rheumatism—rheumatic fever. All other forms of acute arthritis, we may well believe, are as different from this as measles from small-pox. From them the term rheumatism should be abolished, and not until this is done shall we see an end of the senseless drenching with salicylates of such disorders as gonorrheal arthritis, post-diphtheritic and scarlatinal arthritis, and many cases of joint affections complicating the whole group of acute infections. The same thing is true of the forms of arthritis associated with such chronic infections as tuberculosis and syphilis, and of the group of joint affections, more or less obscure in origin, called chronic rheumatism and arthritis deformans. How many cases of flat feet, lame backs, lumbagos from various causes, and sciaticas which are almost never rheumatic in origin, are called rheumatism and fruitlessly treated as such. We have all been guilty, through ignorance of pathology, or carelessness in our clinical work, or in despair

over the obscurity surrounding the whole matter. But let us so far advance reform and invite progress by ceasing abuse of the term rheumatism and of antirheumatic treatment.

VACCINE-THERAPY

Vaccine treatment, for the cure of subacute or chronic infections, as distinguished from preventive inoculations, is extending its field, though it can hardly be said to have become common practice in the profession. The autogenous vaccines, prepared from cultures taken from the patient under treatment, are undoubtedly the most reliable, partly because they are fresh and partly because they are more likely to hit the mark. But since their preparation involves special skill and laboratory facilities, the stock vaccines as furnished by the commercial laboratories are most frequently used. When the disease is a specific one and the virus in all cases the same, the stock vaccines seem to be satisfactory, but under other conditions the only reliable method is in the use of autogenous vaccines.

These vaccines, whether containing living or dead bacteria, are antigens, exciters of the formation of antibodies. Hence their inappropriateness in the acute stage of general infections, and the necessity of caution and small doses where the patient may not be in condition to favorably respond to the stimulus. Vaccine-therapy as a curative measure is, therefore, chiefly applicable in local infections, or in cases of general infections which have settled down into local ones, as for example in chronic recurrent endocarditis not of rheumatic character, in chronic typhoid cholecystitis, and, as recently suggested, in chronic typhoid carriers.

PELLAGRA

While the fear of a general spread of this mysterious disease is not as acute as a year ago, it continues to prevail alarmingly in some places, especially in insane hospitals, and its cause still baffles investigators. The recent reports from the thorough study by local and national experts in the Illinois institutions is to the effect that the cause is still entirely obscure and that no known treatment seems to be effective.

HOOK WORM

Contrary to the fear of a year or two ago, comparatively few cases of this disease have been found in the northern latitudes of this country. But it still presents one of the great problems of treatment and prevention in the south. The campaign against it in Porto Rico has been increasingly successful, and constitutes one of the triumphs of modern medicine. The thymol treatment continues the best, and is usually successful if applied early and persistently enough.

OPHTHALMIA NEONATORUM

The reign of this pitiful and preventable affliction is nearing its end. It is to be made the object of onslaught everywhere, and there can be no question of the results. The Crede method by the instillation of a one per cent. solution of silver nitrate into the eyes of the new born in all cases, or at least upon the slightest suspicion, is so successful, if rationally followed up, that blindness from this cause should soon become rare. Legislative enactments of a general character applying to physicians, and of a specific character applying to midwives, are being strongly advocated and may have much influence. But the appeal to reason and professional responsibility ought to go farthest toward securing the desired end.

EPIDEMIC POLIOMYELITIS

Infantile paralysis, as it is popularly called though affecting adults also, has appeared in epidemic form over a wider area than a year ago. It has extended from the Atlantic to the Pacific, causing great popular alarm. It has been made the subject of many papers before medical societies, and its study continues with great earnestness at the Rockefeller Institute.

That it is infectious has been demonstrated by inoculation upon monkeys, and that it is contagious seems abundantly proved by clinical experience. Fine clinical studies have recently come from physicians in Ohio and Nebraska. There can be no question of the importance of prompt and vigorous quarantine. This is the most valuable lesson of the year.

In the ordinary meningococcus meningitis the treatment by the Flexner serum, as supplied by the Rockefeller Institute and now by other laboratories, continues to receive approval as the most valuable curative agent.

HEXAMETHYLENAMINE

This interesting formaldehyd compound, long used as a urinary antiseptic, has attracted increasing attention as a more general antiseptic. After its administration formaldehyd can often be detected in the cerebro-spinal fluid, the joint fluids, the gall bladder, and indeed in almost any of the body fluids. It has therefore been tried in a wide range of affections such as meningitis, cholecystitis, otitis, various forms of arthritis, endocarditis, and in inflammations of the serous sacs.

Under ordinary doses the formaldehyd content of the body fluids is but slight, apparently insufficient for any appreciable antiseptic effect. In such diseases as those named it should therefore be given somewhat liberally, forty to a hundred grains daily. But while doing so the urine must be watched daily, for it may thus be an irritant to the kidneys, producing albuminuria or hematuria or strangury. Liberal amounts of water should be given with such large doses. Favorable reports from this method are being made and it seems worthy of a wider trial. The writer has been impressed by its apparent benefit in a number of cases of rheumatic and other forms of arthritis.

CARDIO-VASCULAR DISEASES

In this great field several things are worth noting as being, though not new, in the line of progress.

Instruments for the measurement of vascular pressure are multiplying and are coming into common use. Those having pressure-gauges instead of the mercury column, are proving satisfactory, provided they are occasionally corrected by comparison with a mercury instrument, since the standard of blood-pressure measurement is expressed in millimeters of mercury. They are portable and permit of easy and quick use, and are therefore becoming justly popular. A number of life insurance companies now require blood-pressure measurements. In the line of wonderful refinement the electrocardiograph has come in to measure and record the most delicate variations in the heart musculature.

By such means much light is being thrown upon cardiac and vascular conditions and their relations, and also upon the important relation between the auricles and ventricles. Under such control also is growing up a renewed study of the action of cardio-vascular remedies. But lest the great body of conscientious practitioners be dismayed by the advent of these cardio-vascular instruments of precision, it may be well to repeat the assurance of my predecessor, echoing the statement of Russell, that while the use of both instruments and fingers is the ideal, the former cannot replace the latter. This, however, is not to be taken as a sanction to indifference to scientific progress.

Clinically we are learning more clearly that vascular tension is more important than vascular pressure; that hard arteries do not always go with high pressure; that high pressure or abnormal tension are usually precursors of arterial sclerosis and are therefore to be held under earliest suspicion as a basis for advising the patient. So, too, we are beginning to realize that vessels as well as heart walls may be great factors in cardio-vascular compensation.

Hereditary transmission of bad material in the blood-tubes, chronic auto-intoxications, certain infections, and abnormal central nervous tension: these are the chief causes of arterial sclerosis. And for such things we must search in every case, especially in early cases.

In the treatment of the broken compensation of valvular heart disease, we are on all sides being reminded of the old truth that cardiac stimulants do not usually come first. To remove as far as possible the load from an overburdened heart, by rest, diet, promoting excretion, and by the direct removal of obstructing effusions, these are the first things to think of in most cases. In the hands of discriminating practitioners not half as much digitalis is used to-day as ten years ago.

PSYCHOTHERAPY

The wave of psychotherapeutic interest seems to be subsiding and the storm of anxiety seems to be vanishing into rather thin air. With the aid of the rational psychologists we are again getting our bearings and no great harm nor good has been done. We have had a helpful reminder of the old truth of the influence of the mind over the body even in the causation and relief of organic disease, and of the importance of mental and moral as well as physical therapeutics. Every good doctor knew it before and every good doctor has taken it to heart anew.

But nothing really new has come out of the psychotherapeutic movement, except a few evanescent cults, and little has occurred to really advance or retard or disturb the steady progress of rational therapeutics and rational preventive medicine.

The two chief exponents of the religio-medical movement in Chicago and Boston have succumbed to ordinary diseases and gone to their last reward. Peace to their ashes and to their well-meaning but dreadfully mercenary and egotistic spirits.

They have prodded us and stirred the world, and doubtless will continue to do so for years to come, and to the advantage of all concerned. But if we have been alarmed or made anxious or envious by a temporary fame and gilded success, it may sober and level our minds to remember that, while the chief modern apostle of psychologic and religio-medical erotism succeeded in making millions and ending her days in a palace, Jesus Christ had not where to lay his head.

Render therefore unto Caesar the things which are Caesar's, and unto God the things that are God's.

DRUG REFORM

No review of the progress of medicine would be adequate or just without sympathetic reference to the growing reform in the attitude of the profession toward the purveying and prescribing of medicines.

The campaign against the debauchery of the profession by the nostrum business, and its self-degradation by the prescribing of nostrums, steadily gains significance and influence.

"We used to work the 'patent-medicine' business on the public and now we are working it on the doctors," said a pleasant agent in a burst of confidence to the writer several years ago. How any thoughtful physician can fail to see it is a mystery.

That many well meaning and faithful doctors, who read the text-books of the masters in clinical medicine and therapeutics, can continue to place less reliance on them than on drug purveyors is strange. Yet the irrational and almost silly practice continues in too large degree, in spite of the work of the Council on Pharmacy and Chemistry and the influence which the best medical literature would be supposed to exert. How easily even good doctors fall victims to the wiles of the proprietary nostrum monger, just as the public does to the ordinary "patent" medicine. Surely, in the presence of the good influences at work against it, this evil ought not to continue long to show its face in respectable medical circles.

When tempted to write a prescription for a proprietary nostrum, whether "ethical" or not, let the doctor ask himself what he would do if he were instructing a class of medical students. Then he will not do it. Thus conscience doth make cowards of us all.

And in his reasons for not doing it are found the ground and hope for the rapidly rising reform in therapeutics.

THE YEAR'S WORK OF THE STATE BOARD OF HEALTH

Year Ending Dec. 1, 1910.

J. N. Hurty, M.D., Secretary

There are five departments in the State Board of Health, namely, Administrative and Executive; Vital Statistics; Bacteriology and Pathology; Foods and Drugs; Water and Sewage.

In addition to the four regular meetings held during the year, the board held six special meetings. At the regular meetings the reports of the various departments were reviewed and after necessary corrections were received, the policies and directions for the conduct of affairs were laid down, questions of public health discussed and bills allowed.

The annual report will give the board's acts and proceedings in detail.

ADMINISTRATIVE AND EXECUTIVE DEPARTMENT

This department reports an average of one hundred and forty-four letters received and answered each working day; 100,000 circulars on the prevention and management of infectious diseases distributed; sixty-seven unsanitary schoolhouses condemned and the remodeling or construction of new ones started; fifty-four special visits and inspections by the executive officer; 360 special hearings concerning sanitary matters with county, township, city and town officials, and with representatives of firms and corporations and citizens. The tuberculosis and food exhibit has been shown in twelve towns and cities, and in connection therewith 20,000 disease prevention circulars were distributed and over 100 public lectures were given on hygiene and public health.

VITAL STATISTICS

The basis of all public health work is *vital statistics.* Correct records of births, deaths, infectious diseases, marriages and divorces, are necessary that the social movements may be followed: that the vital latitude and longitude of the human family may be known; that family and individual records for possible legal uses may be kept; that data of immense worth in medical science may be at hand for the use of the medical scholar; and lastly, that the sociologist may better study and understand the complex social problems which are to be solved.

The vital statistics show that for the year ending Dec. 1, 1910, there were 34,696 deaths and 53,811 births. The death figures are very nearly free from error, but the birth figures are about 15 per cent. short. The collecting, tabulating, classifying and analyzing of these thousands of deaths and births represent much patient labor. A difficult matter attending this work is the securing of definite causes of death from the members of the medical profession. Polite requests for a definite statement as to whether or not the pneumonia was lobar or bronchial, or as to the part affected by tuberculosis, are frequently answered curtly or even in anger. However, by far the greater number of doctors are pleased to correct and be definite and scientific

in their death returns. Many doctors also do not seem to appreciate that death and birth certificates constitute legal records and are of the greatest importance to the families they serve, as well as of importance to the state and to the science of medicine. Such inappreciative doctors are neglectful in making out certificates of the deaths and births they attend, and so they fail in their duty to give full and complete service to patients.

In the mortality from the diseases herewith named I show first, the figures for the year ending Dec. 1, 1910, and second, the same figures for the preceding annual period.

Typhoid fever, 799—821; pulmonary tuberculosis, 3,407—3,363; pneumonia, 2,458—2,385; diphtheria, 303—274; scarlet fever, 183—126; puerperal fever, 142—162; measles, 409—153; diarrheal diseases under two years, 1,956—1,765; cerebrospinal meningitis, 64—107; cancer, 1,566—1,619; smallpox, 1—5; poliomyelitis, 54—20. Total death-rate for whole state, 12.3 Birth rate 19.0.

The work of the vital statistics department requires the full time of one chief clerk of vital statistics, two assistant clerks, and the partial time of two stenographers, who do compiling and tabulating when not engaged in stenographic or copying work. This small force makes plain why the annual reports are delayed and why so few tables are constructed. To do the vital statistics of the state full justice would require double the force the State Board is permitted to employ.

FOOD, DRUG AND WATER LABORATORIES

While it is impossible to determine the value of the work done in the chemical laboratories of the State Board of Health by detailing analytical analyses, yet it is difficult in any other way to establish any other measure of the activity of the department. A tabulation of the analytical data shows that 1,015 sanitary analyses of water were made during the year, and that of this number 632 samples were found to be sanitarily good; 252 waters were bad and wholly unsuitable for drinking and domestic purposes; eighty-two samples were of doubtful character, that is, at present not sufficiently polluted to be unfit for use and yet bearing every indication of pollution which will sooner or later render them unfit for use. One hundred and ninety-one of these waters were from public supplies, 630 from private supplies, twenty-eight schoolhouse supplies and 117 samples were sent in from wells where typhoid fever existed in the family using the water. It is worthy of comment that fifty-two or nearly 50 per cent. of these waters were unqualifiedly bad and were no doubt in many instances responsible for the typhoid fever.

The drug laboratory analyzed during the year 444 drug samples comprising a great variety of drugs commonly used in treating disease. Of this number 242 were legal, and 202 or 45.4 per cent. illegal. In 1906 the percentage of adulteration of drugs was 66.5; in 1907, 52.9; in 1908, 47.7; in 1909, 35.8. The work of last year shows an increase in the percentage of adulterated drugs although the figures obtained show a slight advantage over those for 1906, 1907 and 1908. An urgent necessity for a careful control of the drug supply is indicated by the fact that even under a rigid law actively enforced, 45 per cent. of the drug supply is illegal.

During the year 2,442 samples of food were analyzed, of which 688 samples were unadulterated and properly labelled and 754 either adulterated or misbranded. This is equivalent to a percentage of adulteration of 30.8. In 1906, the year prior to the passage of the Pure Food Law, the percentage of adulteration was 42.3; in 1907, 20.8; in 1908, 14.9; in 1909, 33.8. These figures do not show the improvement over earlier results which the volume of the work done warrants, because of the fact that the inspectors do not now collect samples for examination unless they believe that they are either misbranded or adulterated, whereas, when the work was started and before they knew anything of the condition of the markets they purchased miscellaneous samples without regard for, or knowledge of, their probable composition.

Two hundred and forty-five cases were filed against dealers for violation of the Pure Food and Sanitary Food Laws. Two hundred and eighteen convictions were obtained. In the other cases, defendants were acquitted or released under suspended sentences. The fines and costs imposed amounted to over $5,000.

During the year the inspectors made 10,662 sanitary inspections of food producing and distributing establishments. Of this number they scored 320 places as excellent; 5,981 as good, 3,629 as fair, 626 as poor and 106 as bad. Results of their work show a marked improvement in the sanitary conditions of the establishments visited.

In addition to the data given above much valuable work has been done which is not indicated

by the tables in the annual report. A complete sanitary survey has been made of the Calumet River. The department has prepared a great deal of evidence in the defense of an injunction suit brought against the State Board of Health and the State Food Commissioner, in the Federal Court. A valuable study has been made of the character of the standard pharmaceutical preparations manufactured by Indiana drug houses. A sanitary inspection has been made of all the canning factories of the state.

DEPARTMENT OF BACTERIOLOGY AND PATHOLOGY

This department is known as the Laboratory of Hygiene. It employs three bacteriologists and pathologists, with one student assistant, one stenographer and one janitor. In the twelve months just ended 10,091 specimens were received, examined and reported on. This is an increase of 2,004 specimens over the largest number examined in any previous year.

Of 3,838 samples of sputum examined, 1,125 or 29 per cent. were found to contain tubercle bacilli. Fifty-four per cent. of the positive sputa were from women, 46 per cent. from men. Nearly two-thirds of these positive specimens were from patients between 21 and 40 years of age. In 51 per cent. of these positive cases there were then or had been other tuberculous patients in the same family; in 7 per cent. the patient had been more or less closely associated with persons known to be tuberculous; while in 42 per cent. there was unknown source of infection. In May 33 samples of sputum were picked up at random on the streets of Indianapolis. Three of these or 9 per cent. contained tubercle bacilli.

Altogether, 2,288 throat cultures were examined and 622 or 27 per cent. contained diphtheria bacilli. Nearly 60 per cent. of all positive cultures were from children in the school age of 6 to 14 years, inclusive. A comparison of the clinical and bacteriologic diagnoses shows that only 58 per cent. of cases diagnosed diphtheria on clinical grounds proved positive on bacteriologic examination, while 18 per cent. of those diagnosed "tonsillitis, etc.," were proved to be true diphtheria. One-third of the cases in which a membrane or exudate was said to be present, and 16 per cent. of the cases with no membrane or exudate were found to be true diphtheria. Only 27 per cent. of all positive first cultures were from patients known to have been exposed. Epidemics of diphtheria of greater or less magnitude were investigated by members of the laboratory staff at Shelbyville, Westfield, New Palestine, Kouts and Loogootee.

One thousand six hundred and twenty-one specimens of blood were examined for the Widal reaction, of which 172, or 10.5 per cent., proved positive. Epidemics of typhoid fever were investigated by members of the laboratory staff at Plainfield, New Castle, Bloomington, Thornton, and Bloomfield. Of 189 specimens of blood examined for malarial parasites, only eleven were positive.

Of 470 specimens of pus from the genital organs, 164 (35 per cent.) contained gonococci. A special study of gonorrhea in children has been made by Dr. Schweitzer. The study was based on twelve cases in female children under 12 years of age. Specimens from those cases were examined at the laboratory and the clinical data secured through the courtesy of the attending physicians.

The brains of 148 animals were examined for evidence of rabies. Of these, seventy-four, or 50 per cent., were found positive. The epidemic of rabies shows little tendency to decrease. In 1908, there were eighty-one cases; in 1909, sixty-three; and (up to December) in 1910, seventy-eight. The disease has, within the last six months, appeared in territory hitherto free from it.

Three hundred thirty-five specimens of pathologic tissues were examined during the year, and eight autopsies performed by the superintendent of the laboratory. Of fourteen specimens of intestinal parasites, three were found to be dipterous larvæ. Of forty-two specimens of cerebrospinal fluid, only two contained meningococci. Miscellaneous samples, such as milk, water, pus, etc., to the number of 1,174 were examined.

Twelve thousand two hundred and seventy mailing outfits were supplied to physicians during the year.

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EDITORIALS

DEFENSE OF THE NEW YORK "REGULATION LAW"

Bierhoff has recently published two articles,[1] dealing with the venereal plague as it exists in New York City, and the opposition by the various women's clubs to certain sections of a recently enacted law providing for the medical examination of prostitutes after conviction.

The author does not attempt to establish the constitutionality of the law, leaving that to the lawyers, nor does he discuss the moral aspect further than to say: "Whether more is to be gained, for the good of the community, by denying the existence of the 'social evil' and by assuming a hypocritical air of being more moral than our neighbors, than by frankly admitting its existence and the growth of its pernicious influence on the public health, and by an attempt to limit—even if only in a small measure—the spread of the diseases resulting therefrom, is a question for our economists."

Since the prime consideration to the physician is one of health, and because no good can come to the community by the deliberate distortions of facts practiced by the opponents of the bill, Dr. Bierhoff set about obtaining accurate and reliable data concerning the part played by the public prostitute in the spread of venereal diseases in the city of New York. He found that out of 1,429 cases of gonorrhea in which the source of infection was definitely known to the patients, the infections from women who might be termed "public prostitutes," numbered 1,056, or about 74 per cent., while out of a total of 527 first infections 418, or 79 per cent., were acquired from this source. Although these statistics were drawn from the author's various dispensary services, yet his private practice netted practically the same results (71 per cent.).

In the light of these data, Dr. Bierhoff very pertinently inquires if we are not justified in assuming that the public prostitute is, in New York City, by far the most prolific disseminator of venereal disease.

In the second paper are considered seriatim the various objections and protests promulgated by the women's clubs. Having studied the problem of the possibility of a sanitary control of prostitution, both in New York and in many of the larger European cities for the past five years, Bierhoff does not hesitate to say that "in those cities in which there is no control, the evils resulting from prostitution are greater than in those cities in which a rigid control is exercised."

In but one city encountered in the investigations of the author were the methods of examination and treatment up to the standard of modern medical science, namely, the city of Dresden, whose police surgeon declares that, since the introduction of their present system of control, the number of cases of disease has become so exceedingly small that no earnest objection could possibly any longer be advanced against the justifiability of their regulations. So that until the methods of regulation in force in other cities have been raised to a higher plane of efficiency, it will remain obviously unfair to use their present results as an argument against a measure which, when properly executed, is capable of much greater good.

The term prostitute should be rigidly applied to any female who, for a financial consideration, or its equivalent, cohabits with a number of males. Such application would bring within the pale of the law many who now escape supervision because they do not make their living solely from this source and hence, in Germany at least, are not amenable to regulation.

The time in our medical enlightenment has come when we should make venereal diseases reportable, just as any other contagion. Under such restrictions we could better cope with the factor of male spreading. This, however, Morrow to the contrary notwithstanding, is a less important factor, for the reason that a male the subject of an active infection will not, as a rule, indulge in intercourse, and if he does, he does not average more than once a week or once in two weeks in frequency, while the prostitute continues to ply her trade despite her infection and cohabits with from one to forty individuals per day, thus having an infinitely greater chance of disseminating her infection than does the male.

The fact that we cannot entirely blot out the disease is no argument against at least making an effort to eradicate some of it, thereby reducing the morbidity proportionately.

The elusiveness of these women calls for shrewder and more competent officials and fre-

1. New York Med. Jour., Nov. 12 and Dec. 3, 1910.

quent examinations demand plenty of skilled examiners. It is well recognized that a latent infection often escapes undetected but that in itself is a reproach on the methods of examination and the more competent the examiner the fewer of such errors in diagnosis will be made.

Under the provisions of the recent New York law, a certificate must be issued before the release of a prostitute from the hospital, but this not to the woman, to be used as a license or clearance certificate, but *to the court,* and at no time does she have possession of it.

From the police standpoint it has been established that there is far greater freedom from flagrant solicitation in those cities in which segregation is practiced than where the clandestine form predominates; hence such measures should be encouraged rather than the practice of dispersion born from attempts at driving out prostitutes.

The whole problem is so enormous that even years will not suffice for its complete solution, but the fearful annual toll from venereal disease demands a relief from the prevailing let-alone policy of ignoring the evil and we should welcome any honest measures which even look toward mitigating an evil that is, and has for centuries been, so deeply rooted in the social make-up of humanity.

THE RELATION OF DISEASE OF THE GALL-BLADDER AND BILIARY DUCTS TO THE GASTRIC FUNCTION

Some very interesting experiments on dogs to determine the effect of artificially produced gall-bladder lesions on stomach secretion have been made at the hands of Lichty, of Pittsburg, and the results are narrated in the January number of the *American Journal of the Medical Sciences.*

It was because of the rather recent recognition of the disturbance of gastric functions through lesions anywhere in the gastro-intestinal tract, manifested in the so-called "acid appendix dyspepsia" and "flatulent gall-stone dyspepsia," that the author was prompted to review the histories of his own cases in the light of such association of symptoms.

In 249 of Lichty's patients in whom the diagnosis of some disease of the gall-bladder and ducts had been made and in 258 patients with a diagnosis of appendicitis, a large percentage had a positive disturbance of the gastric secretory as well as motor functions. Of the 249 gall-bladder and duct cases, 156 had gastric analyses and eighty-four (54 per cent.) showed a hyperacidity, thirty-one (20 per cent.) had a subacidity, while forty-one (26 per cent.) had a normal secretion, the motor function being normal in about the same number of cases. Of the fifty-one gall-bladder cases coming to operation, thirty had gastric analyses made and sixteen (53 per cent.) of these showed hyperacidity, eight (26 per cent.) subacidity and six (20 per cent.) normal acidity.

In some of the cases operated on, the gastric symptoms were the only ones present, although at operation there were found either gall-stones or a pericholecystitis with a local peritonitis between the gall-bladder and duodenum, the gall-bladder and stomach, or both. Both gall-stones and gastric ulcer were found in several cases.

While the series is small, yet it tallies well with the experiences of others in this line of work. And from the combined statistics it seems fair to conclude that about 75 per cent. of all gall-bladder cases are apt to be associated with a disturbance of gastric secretion, and of these, two-thirds have hyperchlorhydria. Gastric motility was affected in about the same proportion of cases.

The main object of the contribution seems to be to call attention to the fact that if a certain train of gastric symptoms is properly recognized, it will lead to a diagnosis of gall-bladder or duct disease even though such pronounced symptoms as jaundice and biliary colic be absent.

It is the opinion of the author that while there may be a subacidity at the height of an attack of biliary colic, yet in the interval between attacks the analysis of the gastric contents nearly always reveals a hyperacidity.

The experiments of Pawlow, Starling, Cannon and Murphy readily demonstrate how a lesion of the gall-bladder and ducts, especially when local peritoneal adhesions have been produced, may, by causing a pylorospasm, disturb both the secretory and motor functions of the stomach.

Such observations made heretofore have led the author to attempt, in the past year, to determine the effect on the gastric secretory function in dogs, of producing an artificial lesion of the gall-bladder, corresponding to cholelithiasis in the human subject.

Accordingly six healthy dogs were selected and subjected to repeated gastric content analyses to determine the average healthy acidity. This done, and one animal being reserved for a control, laparotomy was performed under ether, and into the opened gall-bladder was inserted a foreign body, usually a hard cinder which had been previously dipped into a culture containing streptococci, or mixed microorganisms, and the gall-bladder carefully closed and returned into the

abdominal cavity. After convalescence was well established and the dog returned to a general diet, analysis of the stomach contents was resumed and after a certain time, comparisons made between gastric analysis before and after operation. In four out of the five dogs so operated on and observed, the acidity increased from 3.7 to 13.0 points above the pre-operative average, while in one there was a decrease of two points. Incidentally it was also observed that by virtue of the lesion the motility was materially disturbed and in direct proportion to the extent of the lesion produced.

Every effort was made to have conditions correspond as nearly as possible in the experiments with those met with clinically, and hence the author feels justified in believing that, inasmuch as the experimental data merely confirm the clinical observations of a large number of observers besides himself, the following conclusions seem warranted:

"1. A lesion of the gall-bladder may disturb the gastric functions.

"2. The disturbance most frequently consists of a hypersecretion of gastric juice and a diminution of gastric motility, and may be in direct proportion to the lesions present.

"3. So-called hyperchlorhydria, with its accompanying symptoms, should be looked on as an evidence of some definite pathologic lesion somewhere in the gastro-intestinal tract or its appendages, and should be treated symptomatically only when organic disease can be excluded with a satisfactory degree of certainty."

HUMAN NATURE AND THE PUBLIC HEALTH

"There are some latter-day philosophers who would have us believe that human nature is not the same to-day as it was in the time of the Flood. Herein do they labor without profit, for those of us who have occasion to come in contact with human nature are agreed that it is as unchanged as is canine nature or oxygen nature or anything else that is what it is. One of the most distinctive features of human nature is its prejudice against anything new that promises to make mankind better or more comfortable. Noah may have been the first man to discover it, but he was not the last. Every reformer, every bearer of glad tidings, down to the present hour, has discovered the same thing.

"Therefore, let us not be surprised that the proposal to establish a national department of health is meeting with opposition. Human nature is but asserting itself with characteristic reaction. As it behaved at first mention of the printing-press, the telescope, the abolition of slavery, the enforcement of quarantine, so now it is behaving with respect to this latest innovation which would add to the happiness and welfare of the race.

"Statistics show that the people of the United States each year suffer a preventable loss of over 600,000 lives. Every minute of the day and night, from one year's end to the other, the life of some man, woman, or child is unnecessarily snuffed out because of inadequate care or precaution. So also do careful computations reveal the startling fact that there are constantly no less than 3,000,000 persons seriously sick from causes that are preventable. To dwell on the expense, the trouble, the misery, the hindrance, the loss, resulting from this great number of invalids and deaths would be to present an appalling picture. The financial cost alone requires ten figures for its adequate representation: a total, indeed, of no less than $2,000,000,000.

"And the cases here involved, let it be remembered, are preventable cases: 600,000 annual deaths and 3,000,000 constant cases of sickness that are caused by such things as polluted water, impure food, epidemics, uncleanliness, bad sanitation, and various other conditions which need not exist if properly guarded against. Why, therefore, should they not be guarded against, as provided for by the act now pending in Congress to establish a department of public health? There is small sense in permitting 1,700 fellow creatures to go unnecessarily to their graves every day of the year, to say nothing of the millions who are daily suffering from preventable sickness. At least, such is the view of the reformer—of him who would see the world made better and happier by the maintenance of good health. But the inertia of human nature has yet to be overcome.

"We 'point with pride' and no little boast to our Department of Agriculture, through which the federal government looks after the health of the hogs and the cattle of the nation; but when, as a people, we are asked to give approval to the creating of a like department for taking care of the public health, we become immediately suspicious and satirical, and make plain to the candid observer that human nature is elementally the same forever.

"However, 'tis comforting to reflect that history repeats itself. Every needed reform, every step destined to lead the world forward, has had its battle with opposition and has triumphed. Nor do we exhaust the marvels of human nature

when citing its antagonism to reform: for it possesses also this encouraging and gratifying quality: that it will to-morrow acclaim with pride and passionate enthusiasm what to-day it refuses to welcome. Wherefore, we are minded to bide our time and all will be well."—*Lippincott's*, December, 1910.

The above is a viewpoint of a man outside of the medical profession, the author Clifford Howward, being a brother of Dr. C. Norman Howard, of Warsaw, Ind.

PENDING LEGISLATION IN WHICH DOCTORS ARE INTERESTED

Among bills to be considered at the present session of the Indiana legislature are several in which the medical profession is particularly interested. The State Board of Education will present a medical inspection bill, which gives full permission to school authorities everywhere to institute medical inspection of school children, and urges that the authorities do it. It also requires that medical inspection shall be compulsory beginning with the school year of 1915. This gives four years in which the people can work up to this important matter, and in the meantime only a few hundred children will be sent to the scrap heap of humanity for lack of proper medical inspection. The bill will clearly define what medical inspection shall be and will require that all records shall be kept on standard forms furnished by the State Board of Health, and State Board of Education. The bill further requires that the two boards shall prepare leaflets on the prevention of disease and the conservation of health, and from time to time these subjects shall be taught in all public schools.

Another requirement of the medical inspection bill is in regard to all school buildings which are hereafter constructed. The well-known principles of schoolhouse sanitation are specifically set forth. High and dry school sites are required for all new school buildings after the law goes into effect. The bill also requires that school rooms shall be properly lighted, shall be evenly warmed and shall be thoroughly ventilated.

There are at present at least 6,000 school houses in the state which it would be fair to class simply as shacks or sheds. The surroundings are such as to reduce the efficiency of the children, retard them in their progress, and force into their defenseless bodies disease and even death. All these conditions have been brought about in the name of economy, and the protests of the State Board of Health against this maltreatment of children is generally met with ridicule or opposition. Many who are well-to-do in this world and some men of wide influence have protested against giving the school children a chance for health and comfort. These men have contended that the districts could not afford to build a new school house when the old one was plainly simply a shack and its sanitary condition such as to retard the children, to detract from their efficiency, and to force disease and death into them. These people have queer ideas of economy and they feel that the saving of money under certain conditions to buy coffins with is economy. The medical inspection bill aims to do away with this false economy, and offers some protection to the children who in the future will be the citizens of Indiana.

The ophthalmia neonatorum bill will aim to reduce the number of cases of preventable blindness by instituting measures destined to prevent the development of a disease which annually destroys the sight of many children. The bill will call the attention of the people to the fact that 80 per cent. of ophthalmia neonatorum occurs when midwives are in attendance, and this will probably make the people call for more intelligent attendants. Provision will be made for the proper punishment of those who fail to use precautionary measures or to adopt appropriate treatment for ophthalmia neonatorum. The subject of blindness from industrial accidents will also be briefly considered.

The State Board of Health will present a weights and measures bill. This bill will set forth the standards for weights and measures, and specifically give to the State Board of Health, through its food and drug inspectors, the enforcement of the same. It is an everyday occurrence for inspectors to find that true weights are not being given to the people and that defective scales are being used. It has been calculated, with reasonable certainty, that the people of Indiana to-day pay out not less than $600,000 annually for foods which they do not get. Many are the butchers and grocers who sell their thumbs several times a day at varied prices per pound. Gallon, quart and pint measures which are only a little too short, are found everywhere. The sum total of loss to the people is very great.

The bill calling for an appropriation to meet the expense of operating the state hospital for the treatment of tuberculosis should meet with the hearty approval of every legislator. Through an oversight the legislature of two years ago neglected to appropriate funds for the maintenance

of the hospital and in consequence the institution has not been available to the tuberculous poor of the state for whom it was established.

The State Board of Health will attempt to secure more funds for use in securing health and vital statistics. With the larger appropriation it will be possible to better serve the people as the people demand. The Board needs and should have a very much larger appropriation to be used in sending state health officers to various parts of the state for the purpose of delivering health lectures or in other ways assisting the local health officers in educating the public on health matters, and assist in enforcing existing laws pertaining to public health and sanitation.

Any and all of these various bills deserve the earnest consideration of every legislator and every physician. We earnestly urge the members of the Indiana State Medical Association to write their various legislators concerning these bills and request favorable consideration of them.

EDITORIAL NOTES

OUR New Year's resolution is to give the members of the Indiana State Medical Association as good and if possible a better journal than we gave them in 1910.

OUR hope for the new year is that every county medical society has recently elected an enterprising and energetic secretary, for the life and prosperity of a society depend on the secretary.

THE JOURNAL for December was held up a week by a wreck on the Pennsylvania railroad, but fortunately was not destroyed by fire as was the case with other freight on the same train.

FOLLOWING our usual custom this January number contains several special articles giving a review of medical progress during the past year. We think that the articles are especially interesting and worthy of careful reading.

Now is the time for the new county society secretaries to look over the county medical society directory, published on advertising page 4, and write us concerning changes necessary in order to bring the directory up to date.

WE desire to remind our readers that we want items for our department devoted to news notes and personals. Send us newspaper clippings or letters giving items of interest to the medical profession of Indiana and THE JOURNAL will make good use of the information.

WE regret to announce that our index published in the December number is incomplete in that we accidentally omitted the article on ophthalmia neonatorum by Dr. George F. Keiper, published in the November number on page 439. We suggest that those who are binding their journals index this article along with the other original articles.

FORT WAYNE has reorganized an Anti-Tuberculosis Association and will now take up the fight against the Great White Plague. It is the intention of the officers and members of the Association to establish tent colonies and otherwise assist in the work of preventing the spread of the disease and appropriately treating those who already have it.

THE Board of Trustees of the Indiana State Tuberculosis Hospital are now receiving applications for the position of superintendent of the hospital at Rockville, Ind., and as soon as an appropriation is made for its maintenance will employ a superintendent. All applications and recommendations should be addressed to Dr. Henry Moore, President of the Board of Trustees, Room 25, State House, Indianapolis, Ind.

THE schoolhouse which is without dry and ample play-grounds is a deformity. Most parents and teachers fail to appreciate the tremendous possibility of character-building through play. The most valuable lessons of life are learned in play. Lack of play will arrest development of the will, also of the emotions and intellect. Froebel said, "wouldst thou lead the child in this matter (education), observe him. He will show thee what to do."

THE Rockwood Tuberculosis Sanitarium, located at Danville, Ind., is sending out some illustrations showing scenes in and around the tuberculosis camp located at that place. Patients are received only through physicians, and the institution and manner of conducting treatment in connection with the outdoor life of patients

deserves investigation by those who have patients whose proper supervision and treatment at home are impossible.

In the February number of The Journal we shall publish a complete list of all those who have paid Association dues for 1911, and give the number of each membership card in connection with the name and address of the member to whom the card is issued. If your name is not in the published list you can be sure that your dues are delinquent or if paid they have not been sent to Secretary Combs. The list as published will be the new mailing list of The Journal.

The Committee on the Prevention of Blindness of the Russell Sage Foundation held a meeting in New York City on Dec. 17, 1910. The object of the meeting was to promote closer cooperation between those interested in the prevention of blindness and the conservation of eyesight. At present there are numerous societies representing many diverse interests, medical, philanthropic, hygienic and educational, all working together for one common object, the prevention of blindness. An effort will be made to bring these societies into closer cooperation.

If the State of Indiana had "money to burn" (and no matches) there might be some reason for the establishment of a central Pasteur Institue, at the expense of the state, as provided for in a bill recently introduced in the Legislature. In consideration of the fact that there are so many more necessary objects to be attained by the expenditure of the state's money, many of which will meet with defeat because of lack of funds and the Legislature's expressed desire to economize, we are of the opinion that the bill providing for a central Pasteur Institute should receive scant attention. It would be more sensible, less expensive and certainly as protective of the people's interests to pass a bill requiring that all dogs be either muzzled or killed.

Arthur J. Navin, an Indianapolis druggist, has been convicted of selling cocain to whoever may desire it, and fined $10 and costs. Conviction came about through the discovery that some of the soldiers at Fort Benjamin Harrison were addicted to the use of cocain which could be obtained from Indianapolis druggists under the name of "snow." It was not difficult to secure incriminating evidence, and prosecution and conviction followed. But the astonishing feature of the whole proceeding is that the fine and costs amounted to but $22, whereas a fitting punishment for such an offense should have been nothing less than a jail sentence added to a heavy fine. Furthermore, any druggist or physician found selling cocain should have his license revoked.

The following amendment to the constitution of the Indiana State Medical Association will be voted on at the Indianapolis session:

"The officers of this Association, except councilors, shall be elected by the House of Delegates on the morning of the last day of the annual session, but no delegate nor councilor shall be eligible to any office named in the preceding section, except that of councilor, and no person shall be elected to any such office who is not in attendance at the annual session, and who has not been a member of the Association for the past two years. The councilors shall be elected by the respective district societies, providing that if any district should exist without a society the councilor for such a district shall be elected by the House of Delegates."

To the Secretaries of the County Societies.—If you are a newly elected secretary you will probably have most of the dues for 1911 to collect. The regular report blank for you to use was sent the 1910 secretary from whom you will please obtain it and complete. I have asked each secretary to take enough pride to see that the information concerning his society is correct in the directory published in The Journal. Look again and send me any corrections.

Each society is supposed to have framed and preserved the charter issued it in 1904. Locate your charter and keep it at the meeting place. In case it has been lost a duplicate can be issued. Keep an extra duplicate of the list of members for whom you remit state dues to avoid any misunderstanding when a member does not receive his journal.

Don't forget monthly reports of membership changes. Charles N. Combs, Secretary.

Dr. G. W. H. Kempfer, the medical historian of the Indiana State Medical Association, deserves the highest commendation for his untiring energy and faithfulness in preparing a correct medical history of Indiana. As an evidence of the thoroughness of his work, we wish to say that we have recently received from him the only

correct list of the vice-presidents of the Indiana State Medical Association ever published. Even the old bound transactions of the Association for years carried an incorrect list of the early officers of the Association, and from time to time mistakes in the list have occurred in printing and gone uncorrected. Dr. Kemper, with the expenditure of considerable time and correspondence, has prepared an absolutely correct list which he asserts is the only correct list ever made. When it comes to a question of the medical history of Indiana, we are quite willing to admit that nothing should be considered correct unless we find the name "Kemper" blown on the bottle.

THE Indiana State Legislature, now in session, has among its members several doctors, and we sincerely hope that they will give a good account of themselves when we come to consider what has been accomplished by the present legislature in promoting public health measures. We regret to say that we have heard that some doctor members of the legislature have grouches, and that for the purpose of satisfying personal grievances they will oppose every measure which is advocated by the State Board of Health or the medical profession. What a pity it is that there are any medical men of such small mental and moral caliber that they will violate every principle of right thinking and right acting in retaliation of fancied wrongs. We hope that they can be made to see the injustice and folly of such a course and that they will in the end broaden out to the full stature of real statesmen, such as they probably think they are emulating, by considering the public good rather than satisfaction of personal ends.

SECRETARY COMBS reports that the county medical societies are sending dues for 1911 with reasonable promptness and that already a large number of societies have made preliminary reports. It is just as easy to pay State Association dues in December or January as it is to postpone payment until later in the year and after everyone connected with the work of collection of dues has become thoroughly discouraged because a few doctors are so careless or indifferent in a matter of such vital importance to the welfare of our Association. The by-laws distinctly state that dues become delinquent on and after February 1. As the dues include a subscription to THE JOURNAL it can be readily seen that a strict interpretation of the by-laws warrants the dropping of all delinquents from the mailing list of THE JOURNAL on February 1. We hope, therefore, that all those who expect to retain membership in the Association and receive THE JOURNAL regularly will pay their dues at once. This is a matter which should require no further urging from the State Association secretary, the secretaries of county societies, or THE JOURNAL.

THE secretary of the Indiana State Board of Health has prepared for the annual report of the board a series of charts comparing disease and deaths in the state for 1909 with the same classes of disease during the ten-year period of which 1909 was the closing year. Following are some of the results shown: pulmonary tuberculosis leads with the year average for ten years of approximately 4,000. This exceeds the number of deaths from the same cause in 1909. Organic heart disease, rate of deaths for 1909 much in excess of average for the ten years. Pneumonia, average for ten years approximately 3,000; deaths in 1909 fell considerably short of average. Cerebral hemorrhage is fourth with deaths in 1909 more than the ten-year average. Cancer showed large increase for 1909 over yearly average.

During November fourteen deaths caused by infantile paralysis were reported to the State Board of Health. During the entire month of November there were 2,780 deaths in the state against 2,550 for the same month of the preceding year. Tuberculosis caused the death of 296 persons.

THE Indiana State Board of Health is authority for the statement that there are approximately 2,500 blind persons in Indiana, of whom 800 are blind from the effects of ophthalmia neonatorum, a preventable disease. This is a terrible indictment and indicates carelessness and ignorance on the part of those who are called to attend women in confinement. There should be a law demanding that the Credé treatment be used in every new-born baby's eyes. The treatment can do no harm, and in ninety-nine cases out of 100 it will prevent the development of that dread disease, ophthalmia neonatorum.

The Committee on the Prevention of Blindness, of which Dr. George F. Keiper of Lafayette is chairman, will be responsible for the presentation of a bill at the next session of the State Legislature, the provisions of which bill will be to materially lessen the number of cases of preventable blindness caused from either ophthalmia neonatorum or industrial accidents. The bill should have the support of every physician of

Indiana, and every legislator. We urge the medical profession to take an active interest in securing the enactment of such a law as contemplated.

IN a recent number of one of the large daily newspapers of Chicago some ten or twelve of the best known surgeons of Chicago take occasion to say through the medium of interviews that commission giving in the medical profession is almost a negligible thing in Chicago. The same gentlemen without exception assert that the practice of giving commissions in any form is dishonest as well as unethical, and one prominent surgeon asserts that the only men who give commissions or divide fees are those who are untrustworthy and usually incompetent. He also intimates that the physician who will request or accept a commission in any form is a rascal.

We are satisfied that the better class of men are not giving nor taking commissions nor dividing fees, and we hope that the attitude assumed by the Chicago surgeons who have been quoted will be the one assumed by every medical man who desires the confidence and respect of fellow practitioners as well as the public. We have never understood how any man who desires to be honest can delude himself into believing that fee splitting is honorable, and we are of the opinion that no man who gives or takes a commission does satisfy his conscience that the act is right.

AT a recent meeting of the Fort Wayne Medical Society the following resolution was offered by Dr. K. K. Wheelock and unanimously adopted:

Resolved, That it is the sense of the Fort Wayne Medical Society that customs duties on pharmaceutical and bacteriological products, surgical instruments and such instruments and apparatus as are used by physicians, both in the actual practice of their profession and in scientific investigation, should not bear a higher rate of duty than 15 per cent. advalorem on the finished product; and, be it further

Resolved, That the Fort Wayne Medical Society memorialize our Congressman Hon. Cyrus Cline to present a bill to the present Congress asking for a reduction of the present customs duties on such products as are named above, to a rate not greater than 15 per cent.; that we do this irrespective of party affiliation and in common justice to the sick, and especially the sick poor, and to physicians of these United States upon whose income the present high duties have become a burdensome tax; and, be it further

Resolved, That we ask every County Medical Society in the state to cooperate with us in gaining the active support of its congressman in this work; and, be it further

Resolved, That the Secretary of the Fort Wayne Medical Society be instructed to have these resolutions printed in THE JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION, and sent to each County Medical Society in the State at a period not later than ten days from this date.

IN the fight against tuberculosis and the enforcement of the pure food and drug laws the Indianapolis Board of Health has adopted the plan of issuing certificates of merit to those dealers in food stuffs who keep their premises in a sanitary condition and who offer for sale only products that have been approved as to quality by the Department of Public Health. The certificates are intended to be placed in a conspicuous place for the information of the buying public, but it has been found that it increases the interest of the shop keepers in the aims and objects of the pure food law. The certificate is as follows:

Certificate of Merit

To Whom it May Concern:

INASMUCH as the sale of food products of an inferior quality and unsanitary methods in handling the same are often factors in producing tuberculosis, and especially this being true of milk coming from tuberculous cows,

The Board of Health of the City of Indianapolis

has employed this method of informing the public of the danger from this source, and to certify that the premises of.. ..... have been inspected, and the quality of the food products on sale here and the methods of handling the same have been approved by the Department of Public Health.

SEAL

For the benefit of those who have been so unfortunate as to contract tuberculosis, and are unable to pay for the proper treatment, the City of Indianapolis is maintaining a free Tuberculosis Clinic, located on the northwest corner of Senate Avenue and Market Street.

Hereunto is attached the SEAL OF THE BOARD OF PUBLIC HEALTH AND CHARITIES.

THE Provident Savings Life Assurance Society has issued an interesting booklet with the title "American Life Waste—Where and How it is Increasing," in which are briefly presented some concrete results of the work of scientific men and others who have compiled, studied and digested the mortality statistics. These results with charts and comments are offered in the hope that they may assist in the general warfare against needless suffering and loss of life from preventable disease. The booklet contains some very pertinent arguments in favor of the establishment of a governmental department of public health, and attention is specifically called to the indifference with which legislators as well as many others look on the subject of life waste. The fact that every fifty seconds a life is lost from preventable cause does not seem to be taken into consideration by those who preach conservation. It will take years of education for the gen-

eral public to appreciate the necessity for the adoption of adequate measures for the promotion of the public health, and probably it is with a view to assisting in this work of educating the public which has prompted life insurance companies to prepare and distribute booklets and pamphlets dealing in a very forceful manner with this important subject.

THE cottage plan of treating tuberculosis is being tried in Indianapolis, and is proving quite successful. It was found that in order to successfully combat tuberculosis, and really benefit those cases of incipient tuberculosis that ought to get well, it was essential to surround these unfortunates with better hygienic conditions. In some instances it was found that whole families were living in two rooms, with other persons sleeping in the same bed with the one affected with tuberculosis. The cottage plan of treatment of such cases was adopted. Cottages 10x12, costing $62, or 10x16 costing $80 were constructed of drop siding, with hip roof covered with rubberoid roofing, and floored with matched material. Each cottage is built on a 6-inch concrete foundation having a porch 6 feet wide with railing. Each cottage has seven canvas window openings and a glass door, and is painted two coats inside and outside.

The movement was inaugurated as one of the means of stamping out tuberculosis and to teach those who have incipient cases the proper way to live so that they can be cured and prevent them from infecting others. The plan is proving satisfactory, and is worthy of adoption by other municipalities. Incidentally it may be said that this plan may be put in operation anywhere and deserves consideration in connection with the porch bedroom or other well-known methods of keeping patients out of doors and in sanitary surroundings.

IN our correspondence department we publish a letter in which a plea is made for an amendment to the automobile speed laws, giving physicians the legal right to exceed the speed limit in answering emergency calls. We do not agree with the writer that it would be wise to give physicians privileges concerning speed in driving an automobile which are not granted to others. The emergencies are few and far between when a speed beyond that originally allowed by practically all municipalities is either warranted or justified from the standpoint of the patient who is to be seen by the doctor, or the public who may suffer as a result of reckless driving. The average doctor drives at a speed out of all reason and necessity, and it is habit and a desire to accomplish things quickly more than any necessity to relieve human suffering.

There may be some instances where overzealous officers will overstep the bounds of propriety and arrest an automobile driver for exceeding the speed limit when the automobile is really going but little faster than the law permits. In general, however, the interpretation of the speed law is exceedingly liberal, and we do not believe that there is any need of a change in the law to please anyone, even physicians, and we do not believe that the suffering public demands any change in the law in the interest of physicians which might act as a two-edged sword and be more dangerous to the public than beneficial to the patient whom it is intended to relieve.

If our correspondent had touched on the subject of needless delays at railroad crossings and other places where obstructions in the right of way delay physicians in making emergency calls, there would be ample reason for legislation tending to reduce the evil to a minimum.

THE January number of the *Interstate Medical Journal* is a symposium number on syphilis, and it represents a distinct journalistic service which should be appreciated by the reader of that progressive medical periodical. The list of articles is as follows:

Present Status of the "Noguchi Test" ....Hideyo Noguchi, M.D., New York

On the Means of Finding the *Spirochaeta pallida* with Special Reference to the India Ink Method. (From the Laboratory of the Michael Reese Hospital) .....J. S. Cohn, M.D., Chicago

The History and Methods of Application of Ehrlich's Dioxydiamido-arseno-benzol. (From the Royal Institute for Experimental Therapeutics) .....Lewis Hart Marks, M.D., Frankfort, a. M.

Recent Progress in the Treatment of Syphilis.. .....H. Hallopeau, M.D., Paris

Treatment of Syphilis with Ehrlich-Hata "606".. .....Abr. L. Wolbarst, M.D., N. Y.

Syphilis of the Nervous System..... .....Ernest Jones, M.D., Toronto

Syphilis and Pulmonary Tuberculosis..... .....Robert H. Babcock, M.D., Chicago

Syphilis as a Cause of Pauperism..... .....A. Ravogli, M.D., Cincinnati

Giant Cells in Syphilis..John A. Fordyce, M.D., N. Y.

Personal Observations with the Ehrlich-Hata Remedy "606" .....B. C. Corbus, M.D., Chicago

Syphilis and the Public..... .....Isadore Dyer, M.D., New Orleans

Sanitary Regulation of Prostitutes..... .....Prince A. Morrow, M.D., New York

In addition to the above, there will be four "Collective Abstracts" (critical reviews of recent literature in collective form) on (1) Ehrlich Hata "606," (2) the Cerebrospinal Fluid in Syphilis and Parasyphilitic Diseases, (3) Serum Diagnosis of Syphilis, (4) Diagnosis of the Osseous Lesions of Syphilis by the X-Ray.

The Indiana State Board of Health has received the following petition:

Petersburg, Ind., Dec. 13, 1910.

Secretary Indiana State Board of Health:

We, the pupils of the eighth grade in the Petersburg schools, hereby most respectfully ask you to communicate with the school board of this place, and the local health officer in reference to the condition of the school room into which we are crowded. The room into which thirty-six of us are crowded is a small recitation room. It is not properly heated, the temperature being about 50 degrees or lower on every morning like yesterday morning. Many of us have to wear our wraps to keep warm in school. It is impossible to open windows and doors for ventilation, consequently sanitation is bad. Please look after this matter at once, as it is of great importance to us.

The petition is signed by thirty-four pupils, and it tells its own story.

The school board and the local health officer at Petersburg ought to feel disgraced because of the fact that school children have been obliged to petition the state authorities for relief from a condition which ought to receive attention and without the necessity of a formal petition from pupils who are suffering from a condition that is intolerable. The surprising thing is that the parents do not take hold of the matter and insist on the proper remedial measures. If there is any law which will punish members of school boards for forcing children to live in a school building which is not properly warmed and ventilated, such law ought to be invoked frequently with a view to bringing a lot of ignorant and obstinate school trustees to their senses. We haven't a very high regard for the average board of school trustees, but considering the manner in which these officers are appointed or elected, it is not difficult to understand why the average school is constructed, equipped and managed in a manner largely devoid of consideration for the health and comfort of pupils.

We believe that it should be one of the duties of a health officer to inspect and condemn all public buildings, and all buildings where large numbers of people are congregated, which do not conform to reasonable requirements as to the health and comfort of those who are to occupy them. This leads us to a further suggestion that health officers should be specially trained for the work, and in this connection we wish to commend the efforts of the officers of the State Board of Health in conducting a health school in the city of Indianapolis. All health officers not only should be thoroughly familiar with the most advanced and approved ideas concerning lighting, heating, ventilation and sanitation, but they should be given the power to enforce appropriate regulations and have the courage to do so or get out of the service.

Any favors asked of the Legislature for the Indiana State Board of Health should be granted without hesitation, and for the reason that no requests will be made which are not for the benefit of the people and entirely within reason. If we leave out of consideration the question of health, comfort and happiness promoted by the work of the Board, it can be conclusively shown that from a purely economic standpoint, measured in dollars and cents, the work of the Board saves the people of the state every year, at a modest estimate, fifty times more than it costs to maintain the Board. The good that has been accomplished by the Board is almost wholly due to the work and influence of its secretary. Indiana is particularly fortunate in having as the secretary and head of its Board of Health such an efficient and energetic man as Dr. John N. Hurty, who is recognized all over the United States as one of the most capable health officers, and whose advice and counsel is often sought from outside the state. In Indiana he has always been held in high esteem by medical men, and his recommendations in public health affairs invariably have received the endorsement of a united medical profession. It was a fitting recognition of his services and ability when the Indiana State Medical Association, at its last session, unanimously chose him its first vice-president. Dr. Hurty deserves the support of not only the medical profession, but all the people for his unselfish devotion to work for the common good, and if there is any way by which the sphere of his usefulness to the people of the state can be broadened it seems to us that the Legislature should provide the means for it. If there is any opposition to such a movement it will come from those who are either very ignorant of the economic value of the health of the people, or from a few who offer objections to satisfy personal grievances or promote self advancement. We are not ready to believe that there are many such undesirables in the Legislature.

IN this number we publish a letter from the secretary of the Vigo County Medical Society calling attention to the use of motion pictures as an aid in postgraduate medical instruction for county societies. The January bulletin of the Vigo County Medical Society announces that the society will make extensive use of the motion picture in presenting interesting and instructive subjects, and that arrangements have been made with local moving picture theaters to give special private exhibitions of the films following the regular weekly meetings of the society. Among the films which are available and are to be shown are enumerated the following: Surgical—lumbar nephrectomy, gastro-enterostomy, partial thyroidectomy, hysterectomy, (these films were prepared in Europe for teaching in the Medical Colleges and postgraduate schools); Travel—a trip through the Pasteur Institute, showing the various processes of scientific research and treatment; Medical—a long film showing patients with the following nervous diseases in which diagnosis is often difficult: (1) Disseminated sclerosis, showing the gait, intention tremor and nystagmus; (2) Friedreich's disease (hereditary ataxia) illustrating the ataxic gait and the slow nystagmus; (3) Pseudohypertrophic paralysis, illustrating the gait and the characteristic method of getting up from the ground; (4) Cerebral palsies of children: (a) A cerebral diplegia, showing the gait and athetosis of both arms, and involuntary movements, also of the face and head; (b) Infantile hemiplegia, showing incoordinate movements of the left arm with slight athetosis, as shown in the irregular movement of the fingers; (5) Paralysis agitans, showing the characteristic rigidity of the body, as seen in the gait; the tremors; and the rigidity of the facial muscles as seen when talking; (6) Tremor from lead, in case of a painter, resembling somewhat that of paralysis agitans, but differing markedly in the absence of rigidity as shown by the movements of the face in talking; (7) Paraplegia from myelitis showing (a) the gait, (b) the increased tendon reflexes, (c) absence of abdominal reflexes, (d) extensor response of plantar reflexes, (e) ankle-clonus; (8) progressive muscular atrophy, showing wasting and loss of power in the small muscles of the hands.

"There are many other films of wonderful interest and value; especially interesting are the numerous micro-kinematograph subjects. Those who saw the film, "Russian relapsing fever"—especially secured for us—have some idea of the remarkable possibilities for teaching by such methods, showing more clearly than possible by the microscope, the spirillæ, the spirochetes, and many other microorganisms. Each film will be lectured on by some member of the society at the private exhibitions. The committee believes this will be a very interesting and instructive feature, introducing means of postgraduate instruction in our society never before available. We believe it will stimulate attendance and make this year a notable one."

WITH the beginning of a new year every doctor who has not been giving attention to the business side of the practice of medicine should adopt new methods and attempt to correct mistakes of the past. One of the first things to be considered is that of bookkeeping and the collection of accounts. An accurate set of books should be kept and ledger accounts should be in such shape that the doctor can in a few moments determine the exact amount of the indebtedness of any patron. For the benefit of the patron as well as the doctor statements of account should be rendered every month, and the monthly reminders should be sent until the account is paid or until some satisfactory arrangement has been made for its payment. Failure on the part of any patron to pay any attention to several monthly statements is sufficient cause for placing the account in the hands of a collector. It is only those who are willing to beat the doctor who will ignore statements and take offense because the doctor requests payment. The best patrons and the best friends are those who pay promptly. The worst enemies are those who owe an overdue account. Leniency to the poor, either by reduction or donation of the account, is always a commendable act, but the sooner the account is wiped from the books in one way or another the better it will be for the doctor from the standpoint of pecuniary profit as well as friendship and patronage of the debtor. Many a patient changes his medical adviser because he owes an account which some easy going doctor has failed to collect. Many a doctor loses hundreds of dollars and many patrons each year because he fails to clear his books of accounts by collection either in full or in part. It is no excuse for a doctor to say he has no time to properly look after his accounts. What he loses directly and indirectly by careless methods would more than pay the salary of a good bookkeeper. It is better to do less work and be paid for it than to do a large amount of work and receive little or nothing for it. Every doctor owes it to himself and his family to obtain all that is honestly due him for his work. He has no right to pauperize the community by creating the impression that medical services

may or may not be paid for as suits the pleasure of the recipient. Fellow practitioners also have a right to expect that the dignity and standing of the medical profession shall be maintained. If one doctor is careless and indifferent in business methods it makes it harder for others to create and maintain proper standards. What benefits one benefits all, and what harms one harms all. Therefore, every doctor should aim to follow the course which not only helps himself but helps his fellow practitioners as well, and one of the ways in which he can do this is by adopting business methods in the practice of medicine. There is no reason why he shouldn't conduct his business just as though it were capitalized, and aim to make it pay a satisfactory dividend at the end of each year. This can be accomplished only through a rational system of caring for debits and credits. The merchant who gives credit too freely, and is too liberal in extending time for the payment of accounts due him, soon gets into the hands of a receiver. The average doctor would go into the hands of a receiver about once in every two years if his business were capitalized. But there is no reason why this should be so, for the doctor is just as much entitled to success in a business way as is the merchant, and there is just as much reason for the adoption of those business methods which make the merchant successful. The beginning of the new year is a good time to put new methods into practice, and those who do it will find at the end of the year that the profits have been larger, the patrons better satisfied and more loyal, and the work less but pleasanter because of the knowledge that it brings adequate compensation.

CORRESPONDENCE

SHOULD PHYSICIANS BE PROSECUTED FOR VIOLATION OF THE SPEED LAWS WHEN ANSWERING EMERGENCY CALLS?

Crawfordsville, Ind., Dec. 10, 1910

To the Editor:—Having within the past few months noticed accounts in the various daily papers of the arrest of so many Indiana physicians for exceeding the automobile speed law in answering emergency calls, and having recently had the same experience myself in a case of unquestionable emergency, I take this method of asking your consideration of the suggestion that possibly a few editorials in The Journal may arouse enough general interest among the physicians of the state, that we as a body, through our legislative committee, may bring enough pressure to bear on our law makers, to have an amendment to the speed law adopted, protecting physicians in regard to speed under circumstances demanding haste.

Thanking you for any consideration you may give this suggestion, I am, respectfully and fraternally yours,

F. O. Schenck.

MOTION PICTURES FOR MEDICAL SOCIETIES

Terre Haute, Jan. 1, 1911.

To the Editor:—I enclose a copy of the January bulletin of the Vigo County Medical Society, thinking that you may obtain from it something of interest for publication. I will make a report later as to our experience with the educational motion pictures. I am convinced that motion pictures have a wonderful future as an aid in postgraduate instruction in county medical societies. There are few societies so situated that motion pictures would not be available, and the expense per member for each private exhibition would about equal the expense of attending cheap vaudeville shows.

Our program mentions several films, but others which are available though not named in the program are: (1) extirpation of a cyst of the thyroid; (2) extirpation of a unilateral goiter; (3) removal of a tumor of the testicle; (4) removal of a myxomatous tumor of the thigh; (5) removal of a tumor of the kidney. We also have a film showing the effects of beriberi on Borneo natives. A great number of films illustrating various forms of microscopic life may be obtained.

It seems to me that these and similar films afford an excellent means of instruction and entertainment for medical societies, especially those remote from medical centers in the great cities.

Very truly yours,

Bennett V. Caffee, M.D.,
Secretary Vigo County Medical Society.

THE PURE FOOD AND DRUG LAWS—FACTS AND SUGGESTIONS FROM THE SECRETARY OF THE STATE BOARD OF HEALTH

Our readers will be interested in knowing something about what is being accomplished by the Indiana State Board of Health in the way of enforcing the pure food and drug laws, and in

future issues of THE JOURNAL we shall publish condensed reports. In a personal letter, answering an enquiry from the editor of THE JOURNAL concerning the enforcement of the Pure Food and Drugs Law, Dr. Hurty gives some information and suggestions which we think worthy of publication, and we have therefore taken the liberty of reproducing the main portion of his communication, which is as follows.

Office of the Indiana State Board of Health, Indianapolis, Dec. 17, 1910.

Dear Dr. Bulson:

The pure food and drug laws are being enforced energetically. Last year we made many thousand inspections and prosecuted over 400 venders, losing only about thirty cases. At a meeting of the food chemists at New Orleans about 20 days ago, a speaker said: "The Indiana State Board of Health has set the standard for enforcing pure food and drug laws. The work done by said board, number of inspections, analyses, prosecutions and convictions show that it is in the lead."

Concerning the securing of pure food, permit me to remind you that this is always possible for any person, and pure foods can be found anywhere. I mean by this that such excellent foods as hominy, beans, grits, rice, fruits and vegetables can be had at all times and are not adulterated. Corn meal and flour are not adulterated; buckwheat flour, if adulterated, is simply mixed with corn meal and white flour, which of course does not injure the health nor the pocket.

There are two great sins found in pure food work. The first is—the loss to the pocket by adulteration with harmless articles such as corn meal in sausage and water in milk; the second is the unsanitary condition in slaughter houses, butcher shops and groceries. The whole matter of pure food inspection has resolved itself into the matter of sanitary inspection. The meats which are supplied to the people are a great trouble. Certain dishonest farmers are continually bringing to market and selling the dressed carcasses of animals which have died. We have had several convictions for this. A large percentage of the cattle and hogs and sheep killed are diseased. In addition to this slaughter houses everywhere are unsanitary to an awful degree and we find great numbers of butcher shops where refrigerators are in a very unwholesome condition. I have seen so much that is offensive in conjunction with meat, that I can hardly eat it any more, and indeed I have almost become a vegetarian because of the repulsion engendered in me by witnessing the slaughter of animals which never should have been used for food, and the handling of flesh. I recently examined the carcasses of six rabbits and found five of them infested with worms. Even a large per cent. of the fish in our streams have parasites in them. As for chickens, they are the nastiest feeders upon the face of the earth, and eating the food that they do is enough to repel one from using them for food. I will again say that after all, the pure food question has settled itself down to almost two points, namely, the keeping of clean groceries and meat shops, and the prevention of the handling of unfit meat.

I greatly wish it were possible to arouse as great a public interest in the prevention of tuberculosis and social diseases as it is possible to arouse in the matter of the prevention of food adulteration. In the matter of food adulteration the individual has a chance to attack the other fellow, but in the matter of disease prevention the man must reprimand himself. This probably is the reason why as deep an interest cannot be aroused in disease prevention as in the prevention of food adulteration. *The food from very large food vending establishments is not adulterated.* We never find adulteration in the goods from such houses as Van Camp, Heinz, and some others. Speaking of Heinz, I will say his pickles, and indeed any pickles, are more injurious to the general health than all the benzoate or other chemical preservatives that have ever been used. You know that our best writers upon nutrition warn us against the stimulation of appetite by salads, spices and alcohol. Unquestionably a great deal of ill health and intestinal disorders follow from the excessive eating of pickles, salads, smoked meats, spices and other constipating and irritating and stimulating articles.

I believe we never can expect to extend the duration of life much beyond where it now stands (42 years) until we adopt a plain, coarse diet and never introduce stimulants of any kind into our bodies.

Now I imagine I hear you call me a "crank" for blowing off in this way, but I have been studying myself and also studying the classical researches of Chittenden, Metchnikoff and Fisher. I will keep you constantly in mind and as thoughts occur will fire them into you.

Yours very truly,
J. N. HURTY, Secretary.

DEATHS

DR. A. S. GREEN died at his home in Salem December 13, aged 74.

DR. W. W. MCCARTH, aged 92, died at his home in Madison, December 15.

DR. H. H. ANNESS, who had practiced medicine continuously at Coulter's Corner for fifty-five years, died December 22.

DR. IRA COX died at his home in Goldsmith December 20, of blood poisoning, having been infected while treating a patient at Indianapolis.

DR. MARQUIS L. MARTIN died suddenly at his home in Rossville December 14 from heart trouble. He was born in Union County, June 8, 1821.

DR. E. E. HAWORTH, aged 45, died at his home in Silver Lake, January 3. He had been in poor health for many months. He was a member of the Kosciusko County Medical Society.

Dr. William M. Holton died at his home in New Harmony Dec. 13, 1910, following illness with pneumonia. He was born at Westminster, Vt., July 15, 1827, graduating from the College of Physicians and Surgeons of New York in 1852. After practicing one year in New York City, he moved to Illinois. He removed to New Harmony in 1859, where he practiced till his death, except when in service in the Civil War. He was a member of the Posey County, Indiana State and American Medical Associations.

NEWS, NOTES AND COMMENTS

Dr. H. K. Bonn, Indianapolis, attended the Mayo clinics at Rochester, Minn., in December.

Dr. C. S. Goar and family, of Indianapolis, spent the month of November on the doctor's farm near Rosenberg, Texas.

Dr. A. B. Cleage, colored, a young intern, has been named by Dr. Reed to relieve Dr. Jackson on the city ambulance in Indianapolis.

Dr. John W. Sluss, 217 Claypool Building, Indianapolis, announces that beginning with January, 1911, his practice will be limited to orthopedic and general surgery.

Dr. Charles O. Durham, coroner-elect, Marion County, has chosen the following deputies in Indianapolis: Drs. Ralph S. Chappell, Terminal Building, and M. C. Leeth, 2414 Central Avenue.

Dr. L. M. Dunning and Dr. William A. McBride, externs at the City Dispensary, Indianapolis, have resigned and their positions will be filled by Drs. A. A. Williamson and C. A. Roller.

Dr. Charles J. Overman of Marion, Ind., and Miss Anna M. Johnson of Urbana, Ohio, were united in marriage Dec. 14, 1910. They will be at home after February 1 at 2708 South Washington Street, Marion.

The Indiana Academy of Science unanimously passed the following resolution November 25: "The Indiana Academy of Science hereby endorses the establishment of a National Department of Public Health, such as or similar to that advocated by the Owen bill."

Dr. Frank McCool has taken office rooms with Dr. J. Q. Davis, 410-411 Rauh Office Building, Indianapolis. Dr. McCool was formerly an intern at the Indianapolis City Hospital. Their office hours are from 2 to 4 p. m., 7 to 8 p. m., and Sundays 10 to 11:30 a. m.

Dr. H. E. Barnard of Indianapolis attended the fourteenth annual session of the National Association of State and National Food and Dairy departments in New Orleans in December. Dr. Barnard read a paper before the association on "Sanitary Food Production."

At the meeting of the Delaware County Medical Society, held Jan. 6, 1911, Dr. G. W. H. Kemper read a paper entitled "Fifty Years a Medical Student and Physician." He began the study of medicine Dec. 31, 1860. He has practiced medicine in Muncie forty-five years.

Dr. J. N. Hurty, secretary of the State Board of Health, has the "good health" exhibit on display in the northwest corridor of the State House. Dr. Hurty invites all persons interested in the crusade against tuberculosis to visit the exhibition and examine the drawings, photographs and charts. This exhibition has recently been shown in several Indiana cities by Dr. W. F. King of the State Board of Health.

At the January 3 meeting of the Marion County Medical Society, the following officers were elected: president, A. C. Kimberlin; vice-president, Norman E. Jobes; secretary-treasurer, Roscoe S. Ritter; judicial council, William F. Clevenger and W. D. Hoskins; delegates to State Association, H. E. Gabe, Thomas B. Eastman and Frank B. Wynn; alternates, Charles Pfafflin, Thomas C. Kennedy and Mitchell O. Devaney, all of Indianapolis.

The National Confederation of State Medical Examining and Licensing Boards will hold its twenty-first annual meeting in Chicago on Tuesday, Feb. 28, 1911, at the Congress Hotel. The subjects to be taken up at this meeting will be a consideration of the state control of medical colleges; a report by a special committee on clinical instruction; a report on a proposed materia medica list by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner of the Carnegie Foundation

for the Advancement of Teaching; and some special papers on such subjects as the regulation of medical colleges, necessity for establishing a rational curriculum for the medical degree, and others, by men eminently qualified to prepare papers on such subjects. The officers of the confederation are: president, C. Guernsey, 1923 Chestnut Street, Philadelphia; secretary-treasurer, George H. Matson, State House, Columbus, Ohio.

SINCE December 1 the following articles have been approved by the Council on Pharmacy of the A. M. A. for New and Nonofficial Remedies:

Nucleic Acid (Merck) (Merck & Co.).
Supracapsulin Inhalant (Cudahy Packing Co.).
Tuberculinum Purum (Morgenstern & Co.).
Bornyval (Riedel & Co.).
Antiformin (American Antiformin Co.).
Acne Bacterin (H. K. Mulford Co.).
Friedlander Bacterin (H. K. Mulford Co.).
Antimeningitis Serum (H. K. Mulford Co.).
Staphylo Albus Bacterin (H. K. Mulford Co.).
Staphylo Aureus Bacterin (H. K. Mulford Co.).
Staphylo Acne Bacterin (H. K. Mulford Co.).
Staphylo Bacterin (H. K. Mulford Co.).
Normal Serum (H. K. Mulford Co.).
Noguchi Test for Syphilis (H. K. Mulford Co.).
Tuberculin T. O. A. Original Tuberculin T. O. A. (V. Koechl & Co.).
Tuberculin "Koch" (Old) (V. Koechl & Co.).
New Tuberculin "Koch" (T. R.) (V. Koechl & Co.).
Koch's Bacilli Emulsion (V. Koechl & Co.).
Tuberculosis Diagnostic "Hoechst" (V. Koechl & Co.).
Tuberculosis Diagnostic "Hoechst," dry in tubes (V. Koechl & Co.).
Tuberculosis Diagnostic "Hoechst," 0.1 per cent sol. (V. Koechl & Co.).
Vacuum Tuberculin (V. Koechl & Co.).
Dry Dead Tubercle Germs (V. Koechl & Co.).
Bovine Tuberculin T. R. (V. Koechl & Co.).
Bovine Bacilli Emulsion (Victor Koechl & Co.).
Bovine Tuberculin, Old (Victor Koechl & Co.).
Vacuum Bovine Tuberculin (Victor Koechl & Co.).
Polygenous Tubercle Bacilli Emulsion (Victor Koechl & Co.).
Dead Bovine Tubercle Bacilli (Victor Koechl & Co.).
Tuberculin Residue (Victor Koechl & Co.).
Tuberculosis Serum Vaccine, "Hoechst" (Victor Koechl & Co.).
L-Suprarenin Synthetic (Victor Koechl & Co.).
L-Suprarenin Synthetic Bitartrate (Victor Koechl & Co.).

THE outdoor hospital of the Vanderburgh County Anti-Tuberculosis Society was formally thrown open to the public on Sunday, November 27. This event marked the culmination of a four years' up hill struggle and when Rabbi M. J. Merritt, dipping a spray of hyssop into a bowl of pure spring water after the ancient custom of the Israelites, anointed the doorposts that the Death Angel might see the mark of the Lord's protecting wing and pass by, the citizens of Vanderburgh County and of Evansville felt that indeed much had been accomplished.

From a committee on investigation of local tubercular conditions of the Monday Night Club, an organization made up of public-spirited men and women who were interested in the study of problems of social and civic welfare, this movement has grown until now it has reached a position that has been attained by but few other similar movements in this country.

The enthusiasm aroused among the members of this Monday Night Club in this question of stamping out the white plague was so great that the members of this committee began considering the question of forming some sort of an organization to carry out this work. Congressman Boehne, who was at that time mayor and after whom the outdoor colony was named, called a public meeting to consider the advisability of forming this society. Dr. J. Y. Welborn, as chairman of the committee on investigation of the Monday Night Club, presided and the organization was perfected.

In May, 1908, one year after the society was formed, a clinic was opened. This clinic was a success from the beginning and soon the question of building a hospital was brought up. Mr. Boehne offered $5,000 to buy a site. This offer was accepted and in April of the present year a campaign to raise money to build and maintain this institution was started. While this campaign was on, a letter was received in which the writer, signing himself "Samaritan," agreed to give $5,000 if the people would raise a like sum in the form of yearly memberships to furnish a maintenance. A committee composed of Rabbi M. J. Merritt and Drs. W. S. Ehrich, C. A. Hartley and W. R. Cleveland was appointed to handle this campaign. This committee carried on an energetic campaign and succeeded in raising the necessary amount. "Samaritan," true to his word, forwarded his check, and it was found that again Mr. Boehne was the benefactor.

This colony, or Boehne Camp, is situated on a beautiful hilly tract of twenty-one acres on the Mt. Vernon traction line at a convenient distance from the city. The buildings, nine in number, consist of seven tent houses of the so-called Modern Woodmen pattern, a lean-to and an administration building of brick. The tent houses will accommodate one patient each and were erected by donations from various individuals and by fraternal organizations. The

lean-to is a frame building with one side open. This building will accommodate sixteen patients. It has a dressing-room at each end for patients and in the center a lounging-room. These rooms will be heated in winter. The administration building has accommodations for the nurse and the caretakers, the dining-room for patients, bath-rooms and the office of the physicians. It is heated by a furnace and lighted by acetylene. Water is supplied from a large spring and is pumped into a large tank by a gasoline engine.

The members of the staff, Drs. Johnson, Heiman, Phares, Taylor, Hartley, Davidson, Cleveland, Fields, Raydin, and Ehrich give their time gratis.

This society has a membership list of 5,000, with one dollar per year as the minimum fee. It publishes a quarterly magazine known as the *Crusader,* which is distributed among the members to keep them informed as to the progress of the work and to carry out the educational portion of the work. It has a visiting nurse to visit the afflicted in their homes. The clinic treats on an average of thirty-five patients per week. No portion of the work is neglected and the organization has a bright future before it.

SOCIETY PROCEEDINGS

THE INDIANA STATE MEDICAL ASSOCIATION

A complete list of those who have paid Association dues for 1911 will be published in this and succeeding numbers of The Journal. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published below includes only those whose dues were received up to January 1. Errors in name or address should be reported to Secretary Combs, giving number of the membership card to facilitate prompt detection of the error on the membership records. The list as published constitutes the mailing list of The Journal, and any member whose name appears upon the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address	County Society
1	C. G. Beckett, Attica	Fountain-Warren
2	F. S. Cuthbert, Kingman	Fountain-Warren
3	W. H. Dinsmore, Kramer	Fountain-Warren
4	A. M. Sullivan, Attica	Fountain-Warren
5	L. A. Bolling, Kramer	Fountain-Warren
6	F. A. Shoaf, Veedersburg	Fountain-Warren
7	L. A. Spinning, Covington	Fountain-Warren
8	Geo. Rowland, Covington	Fountain-Warren
9	H. N. McKee, Covington	Fountain-Warren
10	Roy Burlington, Attica	Fountain-Warren
11	A. C. Holley, Attica	Fountain-Warren
12	M. T. Case, Attica	Fountain-Warren
13	C. J. Finney, Attica	Fountain-Warren
14	T. W. Kelsey, Attica	Fountain-Warren
15	S. S. DeLansey, Williamsport	Fountain-Warren
16	Geo. S. Porter, Williamsport	Fountain-Warren
17	E. W. Kirk, Williamsport	Fountain-Warren
18	C. S. Stewart, Auburn	Dekalb
19	W. W. Swarts, Auburn	Dekalb
20	J. D. Nusbaum, Auburn	Dekalb
21	W. H. Nusbaum, Auburn	Dekalb
22	J. E. Cooper, Auburn	Dekalb
23	D. M. Hines, Auburn	Dekalb
24	W. F. Shumaker, Butler	Dekalb
25	J. E. Showalter, Waterloo	Dekalb
26	J. E. Tulley, Millsville	Henry
27	J. E. Hiatt, New Castle	Henry
28	H. W. Greist, New Castle	Henry
29	E. B. Call, Knightstown	Henry
30	S. G. Smelser, Richmond	Henry
31	E. G. Davis, Moreland	Henry
32	I. O. Buchtel, Auburn	Dekalb
33	L. M. Geisinger, Auburn	Dekalb
34	Vesta Swarts, Auburn	Dekalb
35	Frank Broughton, Waterloo	Dekalb
36	H. H. Koons, New Castle	Henry

INDIANAPOLIS MEDICAL SOCIETY

Meeting of October 11

The program was made up entirely of case reports. Dr. Potter reported two cases of Paroxysmal Tachycardia.

Case 1. Female, age 42, no organic lesions demonstrable in heart, lungs, kidney, nor digestive attacks, habits good. Attacks had occurred at varying intervals for one year before seen. During these attacks, when first seen by Dr. Potter, the pulse rate was about 210, no irregularity, no murmur. Some precordial distress, slight dizziness and weakness, great mental agitation. Attacks lasted about six hours, the pulse rate gradually declining reached normal rate, about 90, in twenty-four hours. The next attack, five weeks later, more severe, pulse rate could not be counted, but was more than 220 for a minute. Onset not sudden, maximum pulse rate being reached about one hour after onset of attack. Close questioning disclosed no apparent etiology, except a habit of drinking from fifteen to twenty-five cups of coffee daily. This quantity was readily reduced to three cups, which she has not exceeded. There has been no recurrence of these attacks. Pulse rate is now 80. Patient seems to be in good health.

Case 2. Female, age 40. Had been aware of valvular lesion of the heart, aortic regurgitation, since age twenty, but compensation apparently complete. During last ten years had number of attacks of tachycardia varying in severity and duration, also beginning and ending suddenly, averaging about two a year up to the last year when they had become more frequent. During the last two years has been under a severe nervous strain, and when first seen in an attack by Dr. Potter, was three months pregnant. Attack came on suddenly with no discoverable exciting cause. Much eructation of gas from stomach, which she said was usually present, but was evidently not the cause of the attack, as it did not appear until an hour or more after the attack began, and there was no evidence of any gastro-intestinal disturbances. Patient not greatly disturbed by condition, but calmly waited for attack to pass off, as it did, uninfluenced by bromids

and local cold, after two hours. Pulse rate was perfectly regular during this time. Pulse rate 85. During next five months she was seen in three similar attacks, which lasted from six to twenty-four hours, beginning and ending suddenly. At eighth month of pregnancy she had a furious hemorrhage from a placenta prævia, and died before anything could be done. No post mortem.

Dr. Potter believes that in this case the tachycardia was closely associated with and due to some peculiar feature of her cardiac disease.

Dr. Earp reported a case of lobar pneumonia, which had been under his care, at the Indianapolis City Hospital, in which digitalone and oxygen had been of especial service. Reference was made to the history and diagnostic points and following line of treatment. For the distressing cough codein sulphate ½ grain each four hours, strychnia sulphate 1/40 grain each three hours. Temperature controlled by tepid sponges each four hours, but later on alcohol rubs were substituted. Thirteen days after admission the temperature was 106, patient delirious, pulse weak (blood-pressure 95 m.m.), second pulmonic sound could hardly be detected, breathing very labored, pupils widely dilated, lips and ears cyanotic, and the hands and arms to the elbows almost black. The codein and strychnia were continued, and whiskey ½ ounce each four hours. Digitalone, minims 20 was given hypodermically, one-half an hour after the whiskey. The cardiac stimulation was quite marked, the blood-pressure rose to 118 m.m. On account of the extreme dyspnea and cyanosis oxygen was used. Immediate results were noted by relief of both conditions. After the crisis, the medication was changed to one drachm syrup of hydriodic acid given three times a day.

Twenty-five days after the onset of disease, the patient was discharged and examination showed the lung which had been affected, to have good volume of vesicular breathing, no râles, and no pleuritic pains upon repeated deep inspirations. Analysis of the case shows two distinct features; what can be done to stimulate a flagging heart; and a case in which oxygen exerted a marked beneficial influence.

Dr. F. B. Wynn, Case 1.—Gumma of the Liver. Mrs. S. M., aged 53. No history of lues. Patient began complaining a year ago. There was gradual loss of strength and weight and at time of her admission to the City Hospital, she exhibited a considerable degree of pallor, an enlarged and tender liver, and a prominence of the abdomen due to ascites. Two gallons of fluid were drawn off. In the absence of a luetic history and of alcoholic indulgence or heart lesion, the conclusion was ultimately reached that the underlying cause of portal obstruction was carcinoma, but localization could not be determined, in the stomach or bowels. Autopsy.

Death occurred two months after admission to the hospital. This reveals a liver very much reduced in size—typically "hobnailed" upon the surface. At one of the cicatricial indentations are some pea-sized, whitish nodules of firm consistence. Microscopic examination of these by the State pathologist reveals their nature as gummata. Their gross appearance suggested cancer. The enlarged condition of the liver noted at the time of admission was due no doubt to gummatous inflammation which yielded to the administration of the iodids, but as absorption of the granulomatous tissue took place, connective tissue resulted, leading to the rapid diminution in size of the liver. Had the specific medication been applied earlier in her case, it would, no doubt, have saved her life. Cross specimen submitted for inspection.

Case 2. Purpura Rheumatica: Acute endocarditis; and chronic adhesive pericarditis.

E. G. D. Age 33. Painter. Was a heavy drinker. Has suffered from heart symptoms since a child of nine years, but these never interfered with his activity until four months ago, when he began to have shortness of breath, blueness of the lips and nails, cough, abdominal tenderness and edema of the legs. Recently he has had some tenderness of the joints and muscles. During the two months of his residence in the hospital, he had four outbreaks of petechial hemorrhages, confined largely to the lower extremities, although an occasional hemorrhagic spot could be seen over the body. These hemorrhages would appear quite suddenly and within a week fade so that they were hardly perceptible. Physical examination at the time of admission revealed, besides the symptoms above described, a large and tender liver; extreme cyanosis; musical râles over the lungs with impaired resonance at the base on either side; a very weak and irregular pulse; and enormously increased area of cardiac dulness, laterally as well as vertically; and a soft blowing murmur over the mitral area. The temperature curve was variable, ranging from 100 to 103 F. Under rest and anodynes his cough and edema improved materially. But at times he suffered from a sense of suffocation and retrosternal distress, which made it almost impossible for him to talk. These were without doubt anginal attacks. Death occurred in one of them. Autopsy.

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This revealed: 1. Chronic adhesive pericarditis.

The extensive fibrous hyperplasia indicated that this has probably existed for years, probably from childhood. Within the fibrous tissue, two dime-sized cartilaginous plaques may be felt. These extensive adhesions obliterating the pericardium, lead first to hypertrophy and later to dilatation of the heart.

2. Acute vegetative endocarditis. Friable warty growths are numerous over both the mitral and aortic valves.

The chief point of interest in this case is the coexistence of purpura rheumatica with acute endocarditis. Only one other case of the former disease with autopsy has been reported. Hence the opportunity here offered is rare. Of fifty-four cases of purpura rheumatica studied by Osler, not a single one had endocarditis. But the force of his statement is broken by the fact that not in any of his cases was an autopsy made. Theoretically, one may easily explain the recurrent rheumatica as resulting from a mild vegetative endocarditis, from which infectious emboli are whipped off from time to time. The case and specimen here presented would support this view.

Osler does not look upon the joint tenderness in purpura rheumatica, as a true rheumatism. He believes that this disease, Henoch's purpura, urticaria and exudative erythema, all belong to the erythema group each representing a different phase of the same infectious process.

Dr. A. B. Graham, Pernicious Anemia Treated by Crofton's Method. Mr. F., aged 43, railroader, 19 years ago was treated for chancre on penis. Healed readily and health remained good until one year ago last November, when he suffered from what his physi-

cian described as an attack of heart failure. He was confined to his bed for four weeks. Since that time he had been receiving continuous treatment for syphilis of the liver. He has lost 35 lbs. in weight. Has no pain—complains of general increasing weakness—tingling in both the hands and feet, appetite poor—constipation with occasional attacks of diarrhea which are hard to check. He showed evidence of marked prostration and could walk only with the aid of a cane. He was pale—anemic, and skin was slightly edematous. Slight albuminuria but no casts. Temperature 99.

Gastric analysis after an Ewald meal shows complete achylia gastrica without motor insufficiency. Hemoglobin 30 per cent., reds 1,190,000, whites 7,000, differential count was made by Dr. Bernays Kennedy. We diagnosed the case as one of pernicious anemia. Crofton treatment, somewhat modified, prescribed. Diet advised by Crofton, prescribed. Pure HCL—10 drops before and one-half hour after each meal. Tablet thyroid grain 1—three times a day. Fowler's solution, 5 drops, three times a day.

Patient could not go to hospital so was compelled to suit treatment to conditions. Three weeks later patient had gained 7 lbs., albumen had disappeared from the urine—no edema—color, spirits and strength greatly improved. Hemoglobin 70 per cent., reds 2,700,000.

Saw patient last Friday, gained 13 lbs. Hemoglobin 80 per cent.; reds 4,000,000. A marked progressive gain in every respect. Patient considered himself well and is very anxious to go to work.

Same treatment continued except the substitution of sodium cacodylate, grain 1, by mouth at bed time, instead of the Fowler's solution, patient had been taking. Although in this case I was unable to place my patient in a hospital and carry out the detailed treatment as advised by Crofton, yet the improvement, in the time he has been under treatment, has been pronounced as that obtained by Crofton in his cases.

In interpreting therapeutic results in any case of pernicious anemia, the greatest conservatism should be observed in two directions. One should be altogether sure that one is dealing with true pernicious anemia, and not with a severe degree of simple anemia. Again one should be quite certain that any apparent improvement is not merely one of the spontaneous remissions that occur in so characteristic a manner in this disease, and quite independently of any treatment that may have been instituted.

Dr. Hoskins reported two cases of laryngeal diphtheria. Case 1. Girl, age 7. Case diagnosed as croup until the fifth day, when the dyspnea was extreme. Child was sent to the hospital, when a membrane was found on the left tonsil. Intubation was done on the sixth morning to relieve an urgent dyspnea. Intubation was followed by immediate relief. On the seventh day, the tube became occluded by a piece of membrane requiring immediate withdrawal of the tube. Respiration was free from that time on. Improvement was rapid. She was not able to talk louder than a whisper until the fifth day after the removal of the tube. During the time of her sickness, 40,000 units of antitoxin were given; the tube was in the larynx eighteen and one-half hours, and it was necessary at times to stimulate the child with strychnin to overcome depression.

Case 2. Girl, age 2½ years. Child taken sick with what seemed to be an attack of croup, lasting four days before she was brought to the hospital. Emetics had been given, with some apparent, although short relief. On admission to the hospital the patient was cyanotic, and a membrane was present over the entire right tonsil. After several attempts tube was introduced and the dyspnea relieved. On the fifth day tube was occluded by a piece of membrane requiring immediate removal, relief was immediate, but intubation was necessary two hours later. This was coughed out in a few minutes, along with considerable mucus and pieces of membrane. A few hours later it was necessary to reintroduce the tube, which remained in position two and one-half hours after that. During this time 20,000 units of antitoxin were used. The tube was in the larynx altogether fifty-one and one-fourth hours. Stimulation was necessary several times. The child could not speak above a whisper for twenty-three days after the introduction of the tube. The Klebs-Loeffler bacillus was found in both these cases.

Dr. Brayton presented two patients, one of whom was a case of so-called benign sarcoid or lupoid. This was a woman showing these lesions on the face and back, who had been under Dr. Brayton's observation for several years. She had also been under the care of Dr. Fox in New York, who is extremely interested in this very unusual lesion.

Case 2. Case of blastomycetic dermatitis. This man had been under treatment by several medical men for some time without an accurate diagnosis having been made. When he came to Dr. Brayton's clinic in the Bobbs Free Dispensary, the diagnosis was established immediately, by the finding of the yeast cells in the pus of the lesion. In this case the inflammation and cicatrization on the face and neck had drawn the chin down almost to the chest and made the head practically immovable.

DISCUSSION

Dr. Wynn spoke of the treatment of the profound depression which is found not infrequently in pneumonia attended usually with evidences of cardiac dilatation. Under these circumstances, he has had the most gratifying results from the use of atropin. It is a remedy of the greatest value, and is superior to any other form of stimulant which is known.

In recent years he has seen two cases of paroxysmal tachycardia. In both instances the condition was very prominent but in neither case, in spite of his utmost efforts, could he find any distinct cause.

Dr. Dodds spoke of the best methods of differentiating yeast cells from other cells, which may be found over a suspicious lesion. The double contoured cellulose wall, and the finding of budding forms, make the recognition of the yeast cells in a case of blastomycetic dermatitis easy and accurate. About the only cells found under such circumstances, from which a distinction must be made, are leukocytes. This yeast plant is easily cultivated and is extremely resistant to the action of antiseptics.

This fact was taken advantage of by him a number of years ago in isolating the yeast plant from other forms of bacterial life. Pieces of tissue from a blastomycetic dermatitis lesion were soaked in bichlorid solution for twenty-four hours. They were then dropped in the culture medium and produced a luxuriant growth, while all the other bacteria had been killed by the bichlorid.

The society then adjourned.

R. H. Ritter, Secretary.

Meeting of October 25

The first paper of the evening was read by Dr. Heath. Subject, "Ocular Headache and Its Relief."

Dr. Heath emphasized the frequency of ocular disorders as causes of headache. Location of pain is usually frontal, orbital or occipital, and is usually bilateral. Headache due to eye-strain is usually absent of mornings. The pain is usually dull and not throbbing or lancinating. If pain made worse by use of eyes is relieved by rest, and an error of refraction or an insufficiency of the ocular muscles is present, a diagnosis of eye-strain can be made. Other causes of headache were discussed and differentiated from that to ocular disorders. The permanent relief of ocular headache depends on rest and proper glasses. The examination should be complete, and after error is determined, glasses should be fitted. Consideration in fitting should be given to age, occupation, habit, degree of error, etc. Definite work is essential.

The second paper was read by Dr. Noble. A report of Surgical Services at the City Hospital.

The report was a study of thirty-four consecutive operative cases classified as follows:

Nephrectomy, 1; ventrosuspension, 1; shortening the round ligament, 1; simple section and drainage, 1; Cesarean section, 1; panhysterectomy, 12; oophorectomy (single, double, or both with salpingectomy), 13. Of all the accidents following abdominal surgery, there was one case of hemorrhage, one of separation of the wound following an attack of vomiting on the seventh day. The simplest sort of preparatory and postoperative treatment was followed. Whereas preparation was formerly begun two or three days before operation, interfering with sleep, the disquieting use of a wet bichlorid pack on the seat of the incision during the night before, and purges to further weaken and annoy, none of these were administered, and the patient never prepared until the morning of the operation. After-treatment consisted in nothing if nothing would do. Four or five hours after operation stomach was usually tested with sips of hot water or tea. Ether was the anesthetic used, given by the open drop method. Abdominal wounds were closed with continuous sutures of peritoneum and fascia and subcuticular stitch for the skin closure.

The appendix was removed five times but only in those cases in which they were already involved or were liable to become so. Dr. Noble does not believe in routine removal of the appendix merely because it is in sight. Mortality was a little less than 3 per cent. including all cases and conditions. Every effort was made to complete the operation in the shortest possible time and to do thorough work. As the result of his services there he is convinced that certain things are necessary in securing the highest possible efficiency for the hospital. First, a special anesthetist and resident pathologist and special nurse to preside over the sutures and dressings. The City Hospital is the index of medical activity and zeal of this city, and its welfare should deeply concern every physician in the community.

DISCUSSION

Dr. W. F. Hughes: The profession is divided concerning the frequency of ocular headaches. As usual there are enthusiasts and conservatists. Headache is present in a very large per cent. of eye cases, and a very large per cent. of headaches may be relieved by proper attention to the eyes. This much can not be denied.

Dr. A. C. Kimberlin: Headache is one of our commonest ailments and is one of the most difficult things to treat definitely. It is the hardest matter for the general practitioner to pick out that class of patients needing attention to the eyes, and it should not be forgotten that ocular headaches are not always immediately relieved. Aside from ocular defects headaches are usually toxic or reflex or of vasomotor origin. Migraine is not an entity but is frequently secondary to a nervous condition which has been inherited. Eye strain may be the exciting cause of the headache and there are many other predisposing causes. Dr. Noble in his paper failed to emphasize the tendency to do too much work during an operation. Relief is not more complete, but the complications are more numerous, if the operation is unduly prolonged or too much is attempted. Only those procedures should be used for which there are positive and definite indications.

Dr. M. N. Hadley said that a later report should be made by Dr. Noble dealing with the permanent results obtained by these operations. Much valuable information may have been given by Dr. Noble had he had the time to analyze the types of infection he had encountered and condition of the subject when the operation was done.

Dr. A. B. Graham: The careful preparation of the patient, speed in operating and the utmost vigilance and best postoperative care were essential to get good results in abdominal surgery. The best results can only be obtained by a man with large experience in caring for this class of patients, then such work should not be done by inexperienced men. No operator knows exactly what to do or conditions he is going to encounter when he enters the abdominal cavity. It may be simple requiring the least manipulation and be done by the veriest tyro in abdominal surgery. On the other hand when least expected, the most confused and intricate conditions may be encountered. For this reason whoever enters the abdominal cavity, should be prepared for any condition which may be found.

Dr. Noble now closing the discussion said that his report was only intended to cover the cases in a gross way. The class of patients covered by this report nearly always show complicated conditions. Experience usually guides one towards conservatism. In other cases the individual conditions and possibilities are to be considered. A pathologist at the City Hospital is absolutely necessary to study and properly classify cases in the wards of the institution.

The society then adjourned.

R. H. Ritter, Secretary.

Meeting of November 1

The secretary called attention to the pamphlets, which were being sent out by the National Association of Retail Druggists, reminding the profession of certain official preparations. The opinion of the secretary was that this organization was doing a valuable and commendable work, and he requested permission to write to this association, expressing to them the appreciation of this society for their efforts. On motion, the secretary was instructed to do this.

The program was made up entirely by case reports.

Dr. O. N. Torian reported two cases of Mongolian idiocy, from his clinic in the Bobbs Free Dispensary, and exhibited photographs of the same.

Dr. N. E. Jobes reported two cases of tetanus.

Case 1. Adult, male, seen at the City Hospital. Seventeen days before entering the hospital a splinter of wood had been driven in the under surface of the foot. For one week this discharged pus, but at the end of this period the splinter was washed out, and after that healing was uneventful. Fourteen days after injury, stiffness and soreness of the muscles of mastication were noticed. Convulsions appeared the following day. The third day patient was brought in to the hospital and received 3,000 units of tetanus antitoxin into the deep muscles of the back. On the fourth day 1,500 units were injected into the spinal canal, and 9,000 units injected under the skin. On the sixth day 6,000 units were injected into the deep muscles of the back, and on the eighth day 1,200 units. Patient walked away from the hospital on the eighteenth day. The only other treatment given the patient was 1/12 grain morphin, 12 grain chloral hydrate and 100 grains of chloretone.

Case 2. Adult, male. Seen five days after the onset of muscular rigidity with convulsions. No antitoxine was given until the eleventh day and no effect was noticed therefrom. On the twenty-first day the given symptoms subsided, but an acute arthritis developed and also a deep cervical abscess. The former subsided in a few days, the latter disappeared after free incision and drainage. Complete recovery of patient.

Dr. F. B. Wynn. Case 1. Gumma of the Liver. Case 2. Specimen of the ileum, showing a clean cut, punched out perforation. This patient was taken suddenly ill with intense colicky pains centering about the navel when brought into the hospital, no other history could be enlisted. The abdomen was distended and peristalsis was visible. Patient was extremely depressed and too weak to warrant surgical interference, which was proposed, when the diagnosis of obstruction was made. At the autopsy this perforation was found in the center of an ulcer. Surrounding this region, was a well walled off abcess. There was complete obstruction of the bowel from adhesions.

Dr. A. C. Kimberlin reported a case of leukanemia.

Dr. Switzer exhibited specimens of tertian and aestivo-autumnal malarial parasites, recently found in patients who have come to this city from malarial districts.

Dr. A. B. Graham reported. First. Treatment of a case of Pernicious Anemia by the Crofton method.

Second, exhibition of specimen showing stone impacted in the cystic duct.

DISCUSSION

Dr. Potter had had one of the patients, whose blood was exhibited by Dr. Switzer at the City Hospital. This patient had come directly from the South. After about a week's stay in the hospital, under large doses of quinin, patient had apparently entirely recovered. Dr. Potter now has three cases of extreme anemia under treatment by the Crofton plan, and all are mending.

Dr. Ritter reports on these cases of anemia, illustrates two facts which are being recognized more and more. First, there is such a thing as too energetic treatment of lues by mercury. If this is pushed too far the patients become anemic and depressed. It should be clearly understood that the treatment of this disease is a great deal more than the prescribing of mercury. Second, in Dr. A. B. Graham's case, and Dr. A. C. Kimberlin's case, there were distinct conditions, which cannot be overlooked in discussion of the etiology of anemia, and it is becoming more and more apparent that a so-called pernicious anemia is not essentially a disease of the blood, or blood-making organs, but is brought about by the presence of some distinct pathologic process in some organ of the body. The more carefully these cases are studied, the more frequently some distinct lesion can be demonstrated. Intestinal perversions, lues and persistent absorption from a focus of pus formation are recognized now as the most common causes of pernicious anemia. Some careful students of the subject are claiming that there is no such thing as pernicious anemia, but that this profound form of anemia is wholly secondary anemia.

Dr. F. R. Charlton spoke of the work of Hunter on anemia, and his recent visit to the United States. In his visit to Johns Hopkins, he declared that the one most frequent cause of pernicious anemia seen was suppuration about the teeth, and to prove this he was able to demonstrate in every case shown him at Baltimore, a certain amount of pyorrhea.

The society then adjourned.

R. H. Ritter, Secretary.

ALLEN COUNTY

Meeting of Fort Wayne Medical Society

Meeting of November 1

Society met in regular session in the Commercial Club assembly room, with thirty-two members and nine visitors present.

The speaker of the evening, Dr. Channing W. Barrett, Professor of Gynecology, Chicago Policlinic, addressed the society on the subject "The Effects of Injuries of the Pelvic Floor Upon the Body Functions and Means of Relief." With reference to the function of the pelvic floor, the author said that the pelvic floor is really the lower part of the abdominal wall. The pelvic floor in four-footed animals is rather high; but as the animal assumes more and more of an upright position, more muscles are necessary for support. Cases with congenitally deficient pelvic floor are sometimes seen. He spoke of pelvic hernia as result of congenital defects, and said that as result of pelvic hernia the pelvic organs take a lower plane. The pelvic floor stands in the way of labor instead of aiding in labor. The author also discussed rectocele and cystocele, and said that cystitis and ascending infections were the result of cystocele. In some patients with cystocele, straining down causes the cystocele to roll out, pulling the urethra open, and causing flow of urine. Again there may be inability to urinate without holding cystocele up. In laceration involving rectum, the sphincter is frequently intact, but lacks the proper amount of tone, resulting in piles, fissures, proctitis and sigmoiditis. The uterus is often dragged down with hernia of the pelvic floor. Patients are frequently seen in a toxic condition as result of injuries to the pelvic floor, together with results of lack of exercise. The correction of pelvic injuries, allowing outdoor exercise and outdoor life aids markedly in curing patient of neurotic condition. Dr. Barrett discussed relative degree of injury to the pelvic floor, and said that in childbearing women the degree of injury and prolapse should be taken into account. Regarding

treatment, he said that the condition should be considered in the light of hernia, and spoke on results from repair. If uterus is removed and the round ligaments not attached so as to hold the vagina up, the hernia will return. Any condition which keeps tension in the abdominal wall should relieve this. He described his U-shaped incision, and method of elevating the levator muscle. In conclusion he said that the pelvic floor is the lower wall of abdomen: in upright animals it is there for support, and must be gotten out of the way for childbirth. In childbirth the pelvic floor is injured in a great number of cases. Repair is not the repair of the skin and mucous membrane but is the repair of the hernia or muscles.

In opening the discussion Dr. Porter said that in all various text books the chapters on repair of perineum really mean repair of something else. It is important that you take something in the way of a fixed tissue with the muscle. Place muscle and connective tissue in close apposition, and if childbirth occurs subsequently the woman will not need another perineorrhaphy. No operation applicable as routine procedure. He emphasized the point made by Dr. Barrett that some of the worst injuries to the pelvic floor is where there is injury to muscle without external evidence.

Dr. McCaskey said that the ligaments of the abdomen are of extreme importance. With stretching of the ligaments there occurs stretching of arteries, veins and lymphatics, causing disturbance in circulation. There also occurs stretching of the nerves, interfering with the nerve supply, and giving rise to neurasthenic symptoms.

Dr. Rosenthal said that if repair of pelvic muscle is properly done the pelvic fascia is repaired along with the same. He said that the uterus does assist in holding up the pelvic floor. In closing he described his method of making flap, so that when suturing he covers up sutures in pelvic floor by skin flap.

Dr. Barrett, in closing, described his method for taking care of sponges in abdominal operations. He uses sponges with tape on them, and a small snap on end of tape. When using sponge for packing, snaps the snap to a large safety pin fastened to dressings about the abdominal incision.

A rising vote of thanks was extended to Dr. Barrett.

Adjourned. J. C. WALLACE, Secretary.

Meeting of November 22

Society met in regular session in assembly room with nineteen members and a number of visitors present. Minutes of previous meeting read and approved. Regular order of business reversed to allow A. P. Buchman, chairman of committee for State Association meeting, to give his report. Report read, showing balance of $264.10. Accepted. The regular program consisted of a symposium on the coming meeting of the A. M. A., Dr. McCaskey discussing the scientific aspect. Dr. W. D. Calvin spoke on the itinerary, covering different routes, and showing lantern slides from many points of interest. In discussion Dr. Bulson gave a short talk on hotel rates, etc., at Los Angeles.

Adjourned. J. C. WALLACE, Secretary.

Meeting of November 29

Society met in regular session in the assembly room, with twenty-four members present. Dr. T. D. Crothers, of Hartford, Conn., the speaker of the evening, addressed the society on "The Disease of Inebriety." The author said that drinkers and drug takers are sick. A so-called moderate drinker is an alcoholic because he is continually poisoned with alcohol. An inebriate drinks by spells. The alcoholic is hardest to cure, while the inebriate is curable. He gave the causes of inebriety, and said that by putting man in the very best physical condition the drink craze will die out. He spoke of the advantages of guassia chips in strong aqueous solution as substitute, followed by sulphate of magnesia to rid system of toxins. Also spoke of use of apomorphia and other emetics and mentioned advantages of baths for elimination.

Vote of thanks was extended to Dr. Crothers.

Adjourned. J. C. WALLACE, Secretary.

Meeting of December 6

Society met in regular session in the assembly room with thirty-six members present. Minutes of two previous meetings read and approved. Dr. Porter reported a case of injury to skull in boy. Following throat trouble boy was injured by ball bat, becoming unconscious immediately after the injury. He became conscious, then became worse and finally passed into stupor, and later had spasms involving right side of face. Admitted to hospital October 26. Examination showed right-sided hemiplegia with laceration of left side of scalp, and apparently depression of skull. Feces and urine voided involuntarily; temperature high; spasms, not unilateral, in hospital. Operation: Made T-shaped incision, removing depressed fragments. Found hole in dura from which pus and cerebral debris were removed, also some epidural pus; drainage. Rested well after operation. Had no convulsions until four hours later, when temperature went up to 104. Discharge from wound free. Drain removed and replaced; wound not opened. While in operating room convulsions ceased, but came on again in twenty-four hours, when the catgut drain was removed, also catgut stitches and the wound was left wide open and packed with moist carbolized gauze. Discharged December 3.

Dr. Porter believes that the convulsions and coma were due to more than the local effects of the injury, probably an infection, the same which had caused the throat trouble. Blood examination showed streptococcemia. Patient was given autogenous vaccine by Dr. McCaskey. Cerebral hernia disappeared as infection subsided.

Dr. Porter exhibited a special form of trephine. When using this trephine, as soon as the drill is through to the dura it locks and can not be plunged into the brain. He said that in injury to skull when in doubt as to depression it is best to explore.

Case 2. Bowel obstruction—preoperative diagnosis, carcinoma. History of constipation. Three or four weeks before seen by Dr. Porter had taken large amount of cathartic, followed by pain, rumbling and finally liquid stool. Patient had had attacks of colic for three days, with immensely distended belly and no bowel motion from cathartic. Dr. Porter had made operation on this man two years prior for epithelioma of hand. Made diagnosis of obstruction due to carcinoma low down. Operation: Vertical incision right rectus muscle, and found enormously distended large gut. There were large rents in peritoneum, which were closed. Had to open gut and let out the gas. Found cancer of the sigmoid. Made resection and end to end anastomosis with sutures. Man gradually grew weaker and died about thirty-two hours after operation. Prin-

cipal interest in occasion for death was the fact that he died from toxemia due to absorption of material inside the bowel, and this intoxication had destroyed brain cells prior to operation.

DISCUSSION

Referring to first case, Dr. McCaskey said that tonicity on the right side was gone, and present on the left, leading to diagnosis that there was serious pathology on left side of the brain.

Dr. Rosenthal, discussing the second case, said that the tears in the large bowel were indications of systemic destruction which had taken place.

In closing, Dr. Porter said that the destruction of the fibers in the large bowel was mechanical.

Dr. Bulson reported several cases. First, injury by explosion of glass water gauge. Man presented himself with large, irregular tear in cornea into ciliary region; blood in anterior chamber; hernia of iris, vitreous and portion of lens. At first thought enucleation necessary, but decided to attempt to save eyeball. By direct illumination saw foreign body in anterior chamber, across iris, which looked like an eyelash. Operation: Abscised hernia of iris, and as this was done, the foreign body presented, which was removed and proved to be a long eyelash. Patient made good recovery except for slight adhesion of iris to under side of wound. The interesting point is that the eyelash was carried into the anterior chamber by piece of glass.

Case 2. Loss of eye from penetration by piece of steel. The steel passed through upper lid and sclera, presumably lodging within the eye at a point opposite to point of entrance. Made several attempts to extract the steel with a powerful magnet. X-ray plate made by Dr. Weaver who expressed doubt as to whether foreign body was just outside or just inside of the eyeball. An endeavor was made to get steel by going under the eyeball but the effort failed. The eyeball being very soft from loss of vitreous, enucleation was done. Steel was found firmly lodged in the sclera opposite the point of entrance, and being firmly imbedded the magnet did not have sufficient strength to draw it out. Owing to the soft condition of the eyeball it was not thought judicious to make another opening over the probable site of the steel for the purpose of using the magnet in that location.

Dr. E. E. Morgan reported two cases, the first of anhidrosis. Patient, woman aged 44, has been afflicted nearly all her life. Palms of hands hard and horny, and cracked and painful. Dr. Morgan is unable to find any cause for this condition. Gave small doses of jaborandi, which caused patient to sweat some; also gave hot baths. Turkish baths might relieve.

Case 2. Hyperidrosis. Patient, woman aged 59. Nine years ago began having trouble with pelvic organs, and uterus and one ovary were removed. Three months later she began to sweat without apparent reason. Perspiration would break out all over her body, fifteen or twenty times a day, when sitting quietly in her home. At first she became faint, but in last three years does not become faint, but only suffers from uncontrollable sweating. Patient has to change her underclothes twice a day. Has gained in weight, and is not of nervous temperament. Belladonna, atropin and agaracin have been given, but with little result; antispasmodics have also failed to give results. Prognosis: Patient will probably sweat profusely as long as she lives. Both these cases are diseases of the sweat glands.

Dr. McCaskey in the discussion, suggested ice massage.

Dr. McCaskey reported a case of polyneuritis, the most completely universal he had ever seen or read about. Family history negative. Patient had been drinking one quart of beer daily. Had been poisoned by poison ivy a few weeks before and had used lead lotion. He had chronic mucous colitis. Six weeks before seeing Dr. McCaskey he had spent two hours in water waist deep. Two days later pain began in lower limbs and gradually extended upward, becoming very intense, with marked motor weakness. The face was almost completely paralyzed. There was complete anesthesia of legs, and partial anesthesia of trunk and arms. Electrical reaction of degeneration. Patient is improving and Dr. McCaskey hopes for ultimate recovery. In addition to motor weakness and anesthesia there was some indication of central irritation in the way of spasmodic contraction of one extremity and a few fascicular contractions in muscles, so that it is believed that the anterior cornua was involved in the wide spread process. Tendon reflexes absent. Bladder and rectum not involved. Dr. McCaskey gave various causes of polyneuritis. Treatment consists of absolute rest in bed, diaphoresis and active elimination. After very acute symptoms have subsided, light massage from periphery to centers and later electricity should be employed.

In discussing this case Dr. Bulson said that in paralysis of the facial nerve there frequently is no electrical response for many weeks, and even months, and then recovery follows.

Dr. Dancer suggested that this condition is difficult to differentiate from poliomyelitis, occurring as it did in August.

Closed by Dr. McCaskey who said that poliomyelitis had been considered and excluded because of complete anesthesia and character of paralysis.

Dr. B. Van Sweringen reported a case of giant-celled sarcoma. Patient referred with a diagnosis of probable tuberculosis of knee joint. Patient, man 59 years of age; family history good, except that one relative died of tuberculosis. Personal history excellent, this being his first illness of any severity. About a year ago began having pain in left leg below the knee, which was intermittent, and accompanied by some disablement, also temporary. There was no swelling at this time. Gradually the pain became more frequent and interference with use of the leg greater. He also began to cough and lose weight. After a few months the knee began to swell, and for the last three months has been confined to his bed. Chest examination reveals moist râles on both sides, but no areas of consolidation. Sputum did not contain tubercle bacilli, but did contain staphylococci, streptococci and pneumococci. Abdomen examination negative. Urinalysis negative. Blood examination showed a leukocytosis of 32,990; polynuclears 75 per cent.; large lymphocytes 5.3 per cent.; small lymphocytes 17 per cent.; transitionals 3 per cent.; eosinophils 2.4 per cent. The *x*-ray plate shows a thinning of the femur at the lower end, including the condyles and a rather well-defined mass about the joint. The swelling did not extend to any great extent below the knee, and there was no tenderness on pressure over the tibia or fibula, while pressure over the mass at any point was painful, but more particularly so over the inner aspect of the knee joint. Patella was not lifted from articular surfaces by effusion. The

mass was not bony hard, but seemed to have the consistency of putty or cheese; it did not fluctuate. The skin over it was somewhat reddened. Temperature showed a little elevation at times, but pulse was not much affected. The diagnosis rested between a slow tuberculous osteomyelitis and malignant disease. Tuberculous disease in a man of his age, while it does occur, is not common nor does it produce so high a leukocyte count as was present here unless some other infection be present also. In all other respects the case presented nothing incompatible with such a diagnosis, and it seemed not improbable that a secondary infection had occurred. The leukocyte count seemed more in favor of this view than it did of sarcoma, where it does not usually run so high.

"In sarcoma leukocytosis occurred in twenty-six (61.9) of forty-two cases examined, the average count being 12,386, the maximum 40,000 and the minimum 5,000 per cubic mm. The general rule applies here as it does in carcinoma that small, superficial tumors show lower counts than large, active neoplasms implicating deep viscera. Involvement of the bone-marrow by malignant disease is generally shown by well-defined myelemia and sometimes by eosinophilia; and of the lymphatic system, by lymphocytosis. In differentiating malignant and benign tumors the presence of persistent anemia and leukocytosis points to the former; abscess with sepsis may show identical findings, plus iodophilia and hyperinosis, which do not occur in malignant disease save in the event of septic complications." (J. C. DaCosta, Keen's Surgery, i, 138.)

The high leukocyte count (33,000) was looked on as being more in favor of a tuberculous lesion infected by a pus germ than sarcoma, because it was so high and contained no myelocytes.

In deciding the question of treatment the advisability of excision was considered, and would have been the operation selected had the patient been younger and able to stand the confinement necessary to recover from it. Then, too, the end results, namely, a stiff leg several inches short, which would interfere with his occupation as carpenter, was not to be desired any more than artificial limb. Amputation through the middle of the thigh was finally decided on, as this would prevent any soiling of the wound in case there was any pus in the mass, and if the enlargement proved to be malignant it was the only operation to be thought of as an attempt to cure. Examination of the amputated leg proves this course to have been eminently proper, since the growth proved to be a giant-celled sarcoma.

Dr. Rhamy showed sections from the above under microscope. The specimens were interesting because giant-celled sarcoma is not a very frequent condition.

Dr. Porter said simple exsection of tumor in many bone tumors is amply sufficient to cure case.

Dr. Rosenthal spoke on reimplantation of the tibia.

Application of Dr. Donald D. Johnston of Fort Wayne, with transfer card from Washtenaw County, Mich., Medical Society, was presented and accepted.

Dr. Porter read a communication from the Indiana Physicians Pure Drug Association, and motion was made that the Allen County Medical Society show itself in sympathy with the work of this association. Carried.

The annual election of officers resulted as follows: President, J. C. Wallace; vice-president, L. T. Rawles; secretary, G. Van Sweringen; treasurer, E. E. Morgan. E. A. Crull was elected to fill vacancy on Board of Censors.

Motion made and carried that the rules be suspended and that a committee of two or three be appointed to prepare for Dr. W. P. Whery a communication showing the society's appreciation of his long service to the society, and that he be made a life member without payment of dues. Committee, Drs. M. F. Porter, W. D. Calvin and G. W. McCaskey.

Adjourned. J. C. WALLACE, Secretary.

CARROLL COUNTY

The Carroll County Medical Society met in regular session in Delphi, December 9. Election of officers for 1911 resulted as follows: President, W. H. Galbreth; vice-president, B. W. Egan; treasurer, F. P. Lyons; secretary, W. R. Quick.

Adjourned. W. R. QUICK, Secretary.

DEKALB COUNTY

The DeKalb County Medical Society held its regular meeting December 1, at Auburn. The new officers for 1911 are as follows: President, Frank Broughton, Waterloo; vice-president, W. F. Shumaker, Butler; secretary-treasurer, D. M. Hines, Auburn; censors, W. F. Shumaker, J. E. Showalter and M. E. Klingler; delegate, F. M. Hines, Auburn.

Dr. Garrette Van Sweringen of Fort Wayne presented an interesting paper on "Toxemia of Pregnancy." Dr. B. Van Sweringen, councilor for the Twelfth District, was present.

Adjourned. D. M. HINES, Secretary.

FOUNTAIN-WARREN COUNTY

The Fountain-Warren County Medical Society met at Attica Dec. 1, 1910. Dr. J. H. Honan, late of Berlin, addressed the society on the subject of "Weak Heart." Dr. W. H. Williams, councilor for the Ninth District, was present, and in addition to a talk on the work of the district society, presented a paper on "Gall-Bladder Trouble." Dr. A. M. Sullivan of Attica was elected to membership.

The following officers were elected for 1911: President, J. Roy Burlington, Attica; vice-president, W. H. Dinsmore, Kramer; secretary-treasurer, C. G. Beckett, Attica; censors, E. W. Kirk, Veedersburg; F. A. Shoaf, Veedersburg, and F. A. Jeffries, Odell; delegate, L. A. Bolling, Kramer.

Adjourned. C. G. BECKETT, Secretary.

HAMILTON COUNTY

The Hamilton County Medical Society met December 13. The election of officers resulted as follows: President, J. A. Axline, Noblesville; vice-president, Z. H. Fodrea, Westfield; secretary-treasurer, J. E. Hanna, Noblesville; censors, C. H. Tomlinson, Cicero; A. R. Tucker, Noblesville, and E. E. Wishard, Noblesville; delegate, F. A. Tucker, Noblesville; alternate, T. O. Redden, Jolietville.

The society approved the program for the coming year.

Adjourned. J. E. HANNA, Secretary.

HUNTINGTON COUNTY

The Huntington County Medical Society met Dec. 13, 1910. Dr. J. M. Hicks read an interesting paper on "Autopsy and Cremation." Dr. F. B. Morgan opened the discussion, giving numerous details to be attended to in the care of furnishings of the house where an autopsy is to be held.

The following officers were elected: President, J. M. Hicks; vice-president, C. H. Good; secretary-treasurer, R. Q. Taviner; censors, R. F. Frost, W. S. Grayston and E. T. Dippell; delegate, Ira E. Perry, Bippus; alternate, C. L. Wright.

Dr. Maurice H. Krebs, councilor of the Eleventh District, gave a talk in which he explained the purpose of raising the fees to the State Association, and also gave some suggestions regarding the program and place of meeting for the coming year.

Adjourned. R. Q. Taviner, Secretary.

JEFFERSON COUNTY

The Jefferson County Medical Society, at its regular meeting held Wednesday, December 24, elected the following officers for 1911: President, J. H. Christie, Canaan; vice-president, J. Cooperider, Madison; secretary-treasurer, Carl Henning, Hanover; censor, Vincent Shepherd, Dupont.

Adjourned. Carl Henning, Secretary.

JENNINGS COUNTY

The Jennings County Medical Society met Wednesday, December 28. The following officers were elected: President, W. H. Richardson; vice-president, R. F. Banister; secretary-treasurer, W. L. Grossman; censors, M. F. Daubenheyer, D. W. Robertson and W. J. Mitchell. Dr. W. H. Stemm, having served continuously as secretary for eighteen years, declined reelection.

A committee was appointed to revise the fee bill, and an assessment was levied to pay rent and meet the expenses of the society rooms. The secretary reported that the industrial insurance companies operating in this territory, after a two years' fight, having acceded to the demands of the society for an increase in fees, the members are at liberty to again work for these companies.

Adjourned. W. L. Grossman, Secretary.

KOSCIUSKO COUNTY

The December meeting was held on the 29th instant. A banquet was enjoyed at the Hotel Hays, which was followed by the business and scientific program. The constitution was amended to increase the dues to $4, this being done to meet the increased state dues. Dr. W. C. Landis of Claypool was admitted to membership by transfer from Wabash County Medical Society. The annual report of the secretary-treasurer showed the society to be in a prosperous condition, that the attendance had been good throughout the year (an average of 46 per cent. of all the members having attended each meeting), and that there were but four eligible physicians in active practice in the county who were not members of the society. President Yocum spoke of the harmony and good will which had helped the society and of the good work of the program committee. The election of officers resulted as follows: President, M. G. Yocum, Mentone; vice-president, T. J. Shackelford, Warsaw; secretary-treasurer, C. N. Howard, Warsaw; delegate, G. W. Anglin, Warsaw; censor, C. E. Leedy, Piercetown.

Dr. Albert E. Bulson, Fort Wayne, addressed the society, having been asked to talk on the more common pathologic conditions of the eye, ear, nose and throat. The value of his talk was increased by a demonstration of instruments and by his bringing out in very clear fashion the salient points in the recognition and treatment of these conditions.

Dr. C. A. Daugherty, South Bend, Councilor Thirteenth District, and member of the Board of Trustees, A. M. A., spoke on the subject of "Some of the Purposes of Medical Organization." He treated in interesting detail of some of the things which the county, state and national organizations had accomplished for the benefit of the laity and members as well; giving merited praise in passing to the A. M. A. for its work on the Pure Food and Drug laws, its splendid journal, "the best medical journal in the world"; as well as its other good works. He referred particularly to our splendid state journal and the able way in which it is conducted by our good editor. Dr. Bulson, and spoke encouragingly of the county work and of the great field of usefulness which was opening up in the whole realm of medical organization.

The society passed a resolution urging the legislature to provide funds for the State Tuberculosis Hospital, copies of the resolution to be sent to various members of the legislature.

After a vote of thanks had been tendered our guests, Dr. Daugherty and Dr. Bulson, the society adjourned.

C. Norman Howard, Secretary.

MADISON COUNTY

The Madison County Medical Society met in regular session in the Public Library in Anderson, Dec. 27, 1910. The election of officers resulted as follows: President, J. E. Hall, Alexandria; vice-president, S. C. Newlin, Anderson; secretary-treasurer, Etta Charles, Summitville; censor, O. W. Brownback, Pendleton; delegate, M. A. Austin, Anderson.

The increase of dues was discussed.

Adjourned. Etta Charles, Secretary.

MONTGOMERY COUNTY

The Montgomery County Medical Society met in regular session in the Court House in Crawfordsville, December 20, with sixteen members present, the best attendance in months.

One year ago everything seemed to indicate that Montgomery County could not have a medical society, but this year has brought about many changes. The year 1909 saw but two meetings, and these but poorly attended, while the year 1910 shows twelve meetings, with an average attendance of eight. Formerly a physician could miss a meeting and not feel that he had missed much, but now a meeting not attended means a loss hard to estimate to the one not attending, and each succeeding meeting becomes much more interesting because those present make it so. May every physician in the county help to make the meetings more interesting, and then Montgomery County will have a medical society hard to parallel and excelled by none. A special effort will be made during this year to have

all reputable physicians in the county become members of the society.

The following officers were reelected for 1911: President, J. C. Burkle, New Ross; vice-president, Paul J. Barcus, Crawfordsville; secretary-treasurer, J. L. Beatty, Crawfordsville; censor, S. L. Ensminger, Crawfordsville.

Dr. Martha Griffith read a very interesting paper entitled "The Menopause." Discussion by Drs. Swank Barcus, Batman, Etter, Jones, Beatty and Griffith. Dr. Griffith emphasized very forcibly that a woman in good health from puberty should pass the menopause with little or no disturbance, but the fact that trouble is expected at this time is proved by their being educated to expect it by older women and physicians who attribute every little disturbance to this period. Diseased ovaries and thyroids give some symptoms at this time. The discussion brought out the fact that education is the best safeguard at our command with reference to this condition, and emphasized the idea of careful examination and correction of all pathologic conditions existing when the menopause is approaching.

Dr. E. W. Keegan read a paper on "Acute Anterior Poliomyelitis," which was discussed with much interest. The author emphasized forcibly the need of a most careful diagnosis, but said that it is almost if not impossible to make a positive diagnosis before appearance of the paralysis. The cause of the disease is unknown, but it is known to be both contagious and infectious and should be quarantined and reported to the local health officer. Drs. Batman, Beatty and Keegan reported cases occurring in their practices. While the mortality is not high, the percentage of complete recoveries is low. The disease, beginning as a gastro-intestinal disturbance, should be treated as such, with a careful watch for paralysis. Urotropin is much recommended in these cases, and Dr. Batman recommended the use of electricity and massage after acute stage is passed.

Adjourned. J. L. BEATTY, Secretary.

SPENCER COUNTY

The Spencer County Medical Society met in regular session, with President DeTar in the chair. Minutes of last meeting read and approved. Election of officers resulted as follows: President, C. S. Bader, Chrisney; vice-president, H. T. Harter, Newtonville; secretary-treasurer, H. Q. White, Grandview; censor, J. R. Lang, Rockport.

Dr. J. R. Lang gave a talk on "Medical Ethics," in which the author said in part that when a patient wished to change doctors it should be determined whether or not he owed the one he was leaving. He is of the opinion that the practice of division of fees with specialists, to whom patients are sent for diagnosis and treatment, is ethical.

A committee was appointed to determine the advisability of adopting a fee bill.

Adjourned. H. Q. WHITE, Secretary.

BOOK REVIEWS

THE PHYSICIAN'S VISITING LIST FOR 1911. Philadelphia. P. Blakiston's Son & Co. Price, 25 patients per day, $1.25.

This simple and yet very efficient visiting list is in the sixtieth year of its publication. Its completeness, compactness and simplicity of arrangement class it among the best and recommend it to the increasing numbers who find an accurate pocket list indispensable.

A MANUAL OF NURSING. By Margaret Frances Donahoe. Formerly Superintendent of Nurses and Principal of Training School, Philadelphia General Hospital. New York and London. D. Appleton & Company, 1910.

Primarily for the needs of the nurse in training, this volume serves as an admirable basis on which a more extensive knowledge may be built.

The simplicity of style and directness of information, combined with a careful selection of knowledge necessary to the successful pursuit of a course in nursing, makes this volume a very practical and thorough treatise. Every paragraph covers some essential point. The descriptions of mechanical appliances and their modes of application are clearly given.

This book will be a helpful and valuable one to both the student and graduate nurse. The superintendents of hospitals will do well to consider it as a text in their training schools.

APPLIED ANATOMY. The Construction of the Human Body Considered in Relation to its Functions, Diseases and Injuries. By Gwilym G. Davis, Associate Professor of Applied Anatomy. University of Pennsylvania, etc. Philadelphia and London. J. B. Lippincott Co. Cloth $6.00.

The correlation of structure and function, both normal and impaired by injury or disease is too often unrecognized or wrongly interpreted. The aim of this volume is to demonstrate this relation and to make the student see the practical use to which facts may be put. Each subject is introduced by a few general remarks on the part involved; the skeleton and muscles are briefly described, and thereby one is enabled to understand the surface anatomy which immediately follows. Then comes a consideration of the various affections of the part, with as brief description of the nerves and vessels as is desirable to elucidate the subject.

In a work of this kind, accuracy in illustration is of the utmost importance. Many of the plates are made from original drawings of preparations; others are well selected plates from authoritative sources. In many instances the illustrations are colored to distinguish the various anatomical structures.

The utility of such a volume is unquestionable. As an aid to the student who finds anatomy a dry and difficult study the logic of applying function to structure as a volume of this kind presents it, is most evident. In assisting the surgeon or medical man in correlating the normal and pathologic findings, the usefulness of this work is beyond doubt.

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ORIGINAL ARTICLES

MIGRAINE *

C. F. NEU, M.D.
INDIANAPOLIS

The reports of the following cases will serve to indicate the nature and character of the subject to be considered:

CASE 1. Male, aged 34, drayman, married five years; no children. Complains of headaches which begin over the eyes, mostly on the left side, accompanied by aching and a sensation of drawing throughout the whole body. If after the onset he lies down for about two hours he becomes unconscious (?) or if he continues to work he becomes dazed and unconscious of his actions (?).

The onset of these attacks is like an ordinary sick headache with a dull thud gradually increasing in intensity and extent until drawing sensations appear. In addition there are sometimes sharp shooting pains.

The attack may be so intense as to force him to bed within an hour or so, at times he is able to continue work the greater part of the day, at times he is able to work off an attack. Sometimes the drawing is said by those about him to assume the character of spasmodic jerkings in the left arm, but this has never been noticed by the patient.

The onset of these attacks is usually preceded for one or two days by a state in which he feels extraordinarily well both physically and mentally and has a voracious appetite. Then follows a condition of drowsiness, dulness and languor, and just prior to the onset of pain he becomes greatly depressed, unutterably blue and melancholy with more or less blurring of the eyesight.

The attacks last usually about a day, disappearing after a night's sleep, and are followed by some soreness and tenderness in the head and by some drowsiness lasting for a day or two when he again feels "over-ambitious" and "over-energetic."

The attacks occur on an average about every two weeks. He reports having had an attack of scarlet fever when between 4 and 5 years of age; of being kicked in the face at 7; and of having had an attack of typhoid fever at 27, lasting from August to October, which was preceded by digestive disturbances and so-called nervous prostration from May to August. He has also been subject to so-called sick headaches during his whole life, recurring on an average of once a week and lasting a day or two. Following the typhoid fever he was troubled with a cough and had several small hemorrhages from the lungs during a period of two months, since which time he has had the so-called nervous headache of which he complains at present.

Father is alive and well. Mother died of typhoid fever. Both were subject to attacks of sick headache. He has two sisters, one of whom is also afflicted with sick headache.

The patient is of slim physique, of a dark sallow complexion. The left palpebral fissure is narrower than the right and the patient reports it as always having been so. The palpable arteries show some sclerotic thickening, the pulse is full and with a Faught blood-pressure apparatus registers a systolic pressure of 140 in the sitting posture. The tongue is covered with a whitish fur over its posterior part and the patient complains of a bad taste in the mouth in the morning, and of constipation. The right kidney is freely movable and the urine contains a trace of albumin, but no organized constituents. Otherwise any abnormal conditions could not be found.

* Read before the Indiana State Medical Association, at Fort Wayne, Sept. 28, 1910.

Case 2. Male, aged 50, married; no children. Complained of feeling badly all over, of being weak and nervous, and of having attacks of "trifacial neuralgia."

The attacks begin with a pain over the outer part of the left shoulder gradually extending up the side of the neck, behind the left ear to the side and top of the head, becoming focussed in the left temple and left eye, reaching those places usually within two to three hours from the onset. He then becomes nauseated and vomits, usually coughs some and at times the voice becomes hoarse and the nose stuffy. The shoulder feels as if it were carrying a heavy load. There is some roaring in the left ear, the neck and side of the head become sore and tender, vision in the left eye becomes dark and blurred, the lid droops, the eye-ball aches and is tender to the slightest pressure and the lower jaw feels stiff. In addition there are irregular, transitory, sharp, shooting pains through the eye and side of the head. The aching lasts for a day or two. Then there is comparative ease for the same length of time following the taking of medicine and is again followed by a recurrence of the original ache. These alternations continue during a period of about two weeks, then all manifestations entirely disappear. These attacks first began about eight years ago and have recurred about once a year ever since. They are always preceded by a run-down condition, the present attack having been preceded by a sharp attack of dysentery. They are incited or exaggerated by sudden exposure to cold, particularly after eating.

The patient is said to have had typhoid fever at 3 years of age, parotitis at 4, throat trouble at 26 characterized by a spasmodic-like feeling on attempting to swallow, and by difficult breathing lasting about three years. He has always been subject to headaches, mostly on the top and back of the head, followed by a feeling of dulness, and sometimes accompanied by nausea, vomiting and a stuffy feeling in the nose. He complains of some gastric discomfort after eating and some bloating. Appetite is good but he fears to eat, as he has noticed that usually preceding the attacks for several days, he has a voracious appetite, then follows a period of dulness, heaviness and a tendency to sleep immediately preceding the onset of pain.

Father died at 70 of Bright's disease. Mother at 49 of paralysis (apoplectic?). He has seven brothers and sisters living and healthy. One brother was born partially blind due to cataract.

Patient is well nourished and robust looking, complexion somewhat muddy and sallow. There is some tenderness over the great occipital nerves at the point of passage on to the occiput, and also in the left temple and left eye. Tongue flabby and slightly furred. No teeth in the superior maxilla. Urine 1025, and contains an excess of indican; otherwise the examination was negative. He was just recovering from a severe attack during which he had been kept more or less constantly under the influence of opiates.

Case 3. Male, aged 43, married. Complains of periodical attacks of pain in the head, usually unilateral, accompanied by nausea, retching and sometimes vomiting, followed by some soreness and tenderness of that side of the head.

The attacks usually begin with a dull ache in or above the eye, generally on the left side, occasionally on the right, often coming on during sleep and gradually increasing in intensity and extent until it reaches the temple and side of the head, at times becoming more or less general and assuming a more or less thumping character. As the pain reaches a climax there develops nausea, retching and sometimes vomiting. The pain is intensified by anything which tends to increase the blood flow to the head or to increase blood tension. The pain usually lasts during the day and until sleep is secured and is entirely gone on awakening. At times by the regulation of habits, restriction of diet and appropriate medication the attacks can be aborted and in most instances at least ameliorated.

During the attack the eyeball aches and feels sore and tender. There is also a feeling of general chilliness, coldness of the extremities, and a general depression with physical and mental dulness and torpor. Features become sallow and at times slightly jaundiced.

Following the attack there is a feeling of soreness and tenderness on the side of the head involved, lasting for a day or two.

The attacks are always preceded by a feeling of exceptional well-being and a better than usual appetite for several days; then follows a day of listlessness and disinclination to mental or physical exertion, a feeling of high tension and apprehensiveness, some emotional irritability, and he awakens during the night or following morning with the characteristic pain in the head and eye.

He gives a history of diphtheria at 12, malaria at 14, a severe attack of lagrippe with lumbago at 30. Fell out of a swing at 11 and was rendered unconscious for several hours. Was kicked on the head by a horse at 13 and rendered unconscious for forty-eight hours. He has been subject to attacks of sick headache since boyhood, which occurred only occasionally until the

age of 23 when he engaged in the sedentary life of a student, after which they became more frequent and severe. This led him to consult an oculist who found some astigmatism and prescribed the necessary glasses which lessened somewhat the frequency and severity of the attacks.

Father died at 70 of cerebral softening following an attack of supposed sunstroke. Mother suffered from asthmatic attacks and died at 45 of what was supposed to be apoplexy. Several brothers and sisters died in infancy of diphtheria. Two brothers and one sister are living and comparatively healthy but are subject to occasional attacks of sick headache. The patient is the next to the youngest in a family of eight children. He is well nourished and apparently of a rugged constitution. Never used alcoholic drinks or tobacco until after 30, and since then only very moderately. There is rather marked thickening of the palpable arteries, blood-pressure with the Faught instrument registers 135 in the sitting posture and there is some cardiac enlargement. There is some deafness in the right ear which has existed for eight to ten years and is associated with more or less constant roaring, said to be due to auditory nerve involvement.

Migraine, also designated hemicrania, bilious, blind or sick headache, is described by Gowers as "an affection characterized by paroxysmal nervous disturbances with headache as the most constant element, commonly accompanied by nausea and vomiting and often preceded by some sensory disturbances." Starr describes it as "a functional neurosis characterized by sudden attacks of intense pain in one side of the head, often preceded by evidence of irritation of various functions of the brain and followed by digestive disturbances."

Etiology.—It is said to occur more in females than males and as mostly beginning in the first half of life, especially between the ages of 10 and 30. The affection is strongly hereditary as at least 50 per cent. show a direct history. Oppenheim quotes Moebius as giving a heredity of 90 per cent. In early cases usually no immediate cause is traceable. In later cases, or exacerbations of early cases, there is usually present some factor which exercises a depressing or weakening influence on the nervous system. No particular predisposing factors are known. A congenital defect in the chemistry of nutrition rather than extraneous causes is assumed by Starr. The active cause is by some believed to be the sudden development of a poison of undetermined nature which first stimulates and excites the brain, then causes pain and a suspension of brain functions, and which is eliminated by the gastro-intestinal tract or the kidneys, hence is regarded as a disease of nutrition. Mental overactivity, persistent emotional disturbances, working in insanitary places, excesses in alcohol and venery, indiscretions in diet, overfatigue, exposure to cold, etc., are all given as possible inciting factors.

Symptoms.—Gowers groups the symptoms under the following headings and gives the order of frequency as follows:

1. Headache.
2. Nausea and vomiting.
3. Disturbances of vision.
4. Disturbances of speech.
5. Disturbances of sensation in the limbs.
6. Vaso-motor disturbances.
7. Motor disturbances in the limbs, and to these may be added
8. Mental disturbances.

Prodromata.—Premonitory symptoms are present in many cases and if the day or two of heightened well-being feeling, both physically and mentally, which precedes the onset of the disturbing manifestations of the disease-complex be regarded as such, they are present in the great majority of cases. This phase may last from several hours to several days, and is followed by a depressed phase characterized by a heaviness in the head, drowsiness, a tendency to yawn, often dizziness, irritability, ill-humor and mental dulness. At this time there may also arise visual disturbances such as starry and zigzag figures, gay colors, flashes of light, etc., which are seen on one side of the visual field, involve both eyes, do not disappear by closure of the eyes, and by some (Starr) are regarded as true hallucinations, and which may or may not be followed by other disturbances during the attack. There may also be auditory disturbances in the form of ringing, sound of bells, strains of music, etc. Likewise there may be olfactory, gustatory, or sensory disturbances in the limbs, such as numbness and tingling particularly of the side opposite to the pain in the head, and to this may be added motor disturbances in the form of twitchings, spasms, or even transitory motor weakness involving the speech musculature or the movements of the limbs.

Attack.—The attack may be said to begin with the onset of pain which is usually sudden and may be acute, or may at first be dull and of moderate severity gradually increasing until it reaches its maximum. It is generally unilateral, mostly on the left side, and may at first be localized in the temple, at the back of the head, over or in the eyeball, gradually extending at times to

the entire side of the head and may become general. It is increased by movement, noise, bright light, or anything which increases blood-pressure or blood-flow. As the pain reaches its maximum nausea usually appears and is attended with a disinclination to take food, or if taken does not digest and lies heavily on the stomach leading to discomfort, retching and often vomiting which at times marks the termination of an attack, in other cases exerts no influence whatever on the course of the attack. There also develops a feeling of complete prostration, hypersensitiveness to all forms of sensory stimulation, an exaggeration of the various disturbances enumerated as prodromata and which many regard as direct manifestations of the attack, leading even to blindness, deafness, aphasia and hemiplegic weakness.

The vaso-motor disturbances may not be prominent. They vary in the time of development, in seat and in character. They are often present at the onset of the attack and may last throughout its whole course. Frequently they are limited to one side of the head and face. In other cases they may also be present in the extremities. There may be pallor, retraction of the eyes, small pupils, unilateral sweating and a pinched, drawn facial expression. In other cases the face is flushed, conjunctivæ are injected and there may even be puffiness of the scalp and punctate ecchymoses over the seat of the pain, but this is rare. The two conditions may alternate as the attack wears off.

There is usually a slight mental change during the attack, consisting of depression, restlessness, emotionalism, sometimes loss of memory, confusion of ideas, vivid recollection of past experiences, double consciousness or stupor. Confused states, or so-called dazed-conditions, occasionally occur in the course of severe attacks which are characterized by frightful hallucinations, especially of vision. As a rule they develop at the height of the attack and persist after it from several hours to several days. Very rarely they precede or take the place of an attack. This condition is attributed to the disturbance of the cerebral circulation, since patients may or may not have more or less insight into their condition, and as a rule manifest some defect in memory in regard to what transpires during this time.

Termination.—The most frequent termination is by sleep. Sometimes it is marked by vomiting, by profuse perspiration or by diarrhea. In rarer cases it passes off gradually especially in the milder cases.

Duration.—The duration of an attack varies from two to seventy-two hours, usually from twelve to twenty-four hours.

After-Effects.—The after-effect is usually one of more or less prostration, gradually passing off within a day or two. In many cases there is some soreness and tenderness over the seat of pain, and at times some slight mental disturbance.

Recurrences.—The recurrences generally take place within three to four weeks, at times as frequently as every two weeks, in other cases not oftener than every two to three months or even as infrequent as once a year. As a rule the interval is shorter where the attacks consist of pain only. In females they are often related to and occur at the menstrual period. The attacks may be more or less stereotyped in character and nature, or be quite irregular.

Prognosis.—The prognosis so far as endangering life is concerned is *nil.* As regards immediate recovery the outlook unfortunately is not so good. But where the attacks are of short duration and where there exists a possible removable cause much can be done to lessen their frequency and ameliorate their severity. They are said to disappear in some cases of pregnancy. They usually diminish in frequency and severity and tend to cease in the latter half of life, especially after 50.

Diagnosis.—The diagnosis should not be difficult if one bears in mind the predominating features in regard to onset, course, intensity, duration, location, its paroxysmal character, the absence of definite objective signs, and the good health of the individual in the intervals.

Pathology.—In looking for an explanation of the development of the manifestations peculiar to this symptom-complex we are forced to confess that as yet there have not been determined any structural anatomical changes in any organ or tissue in the body which can be held accountable for which reason we include it under the group of so-called functional disturbances which is merely an elusive method of saying "We do not know." We must admit that before a perverted function can be manifested there must be an impairment of the structural relationship of any cell concerned, but the limitations of our diagnostic methods prevent us from determining and ascertaining the character and nature of those changes. Many suggestions and theories have been offered among which the following may be noted: anomalies of refraction; disease of the nasal and accessory cavities; impairment of the digestive functions; excess of uric acid in the blood; poisonous products in the urine; anoma-

lies of metabolism and an auto-intoxication dependent thereon; an abnormal smallness in size of the lumen of the foramen of Munroe, which, whenever a cerebral hyperemia arises from any cause, leads to occlusion of the canal, stasis of the ventricular fluid, expansion of the hemisphere and pressure on the nerve terminals in the membranes and periosteum; vascular disturbances, and derangement of the nerve cells of the cerebral cortex. Of these there are perhaps three that are worthy of special consideration.

Many facts seem to indicate a vaso-motor basis due to sympathetic nerve involvement, not the vaso-motor disturbances accompanying the attack which may be regarded as the result of the pain, but the cerebral focal symptoms, the transitory duration of which points to a passing, nutritional disturbance explainable by vascular spasm. One group of authorities agree with Du Bois-Raymond in regarding it as a vaso-motor spasm. A second group agree with Mellendorf in looking on it as a vaso-dilation, while a third group attribute it to a combination of the two, the early symptoms to vaso-motor spasm, and the headache and later symptoms to vaso-dilatation. To explain the peculiarities of this condition which are: its special and more or less uniform features, its deliberate course, and its predominant involvement of sensory structures on a vaso-motor basis, Gowers says that we must assume:

First, an initial spasm of the arteries in a small region of the brain.

Second, that the contractions always begin in the same places.

Third, that it can give rise to a definite, uniform and very peculiar disturbance of function; and he maintains that there is no evidence of this. Furthermore, this conclusion is supported by the fact that in those diseases where the sympathetic system is known to be diseased, we do not observe any symptoms resembling those of migraine.

The predominance of the sensory symptoms points to a possible derangement of the sensory cells, the peculiarities of the condition being dependent on a combination of over-activity on the one hand, and an arrest of action on the other. Other facts could be mentioned in support of this view which is strongly advocated by Liveling, but this also, like the vaso-motor theory cannot furnish a full explanation of all of the symptoms manifested.

It has been demonstrated in the treatment and management of these cases that the removal of irritating factors, such as correction in errors of diet, correction of errors of refraction, regulation in the daily habits and manner of living, participation in appropriate exercise, exert a powerful influence in lessening the frequency and severity of the attacks, which seems to indicate that disturbed metabolism resulting from these or similar causes may be the possible source of trouble, leading up to a so-called accumulative auto-intoxication, and the outbreak of the attack is merely Nature's method of calling attention to the effect of these unhealthy and unhygienic conditions and insists on an opportunity to rid itself of those obnoxious substances.

If it be true that the direct exciting cause is the presence of some abnormal product of metabolism in the circulating blood or lymph, it is still difficult to understand why it should exercise its action predominantly on a specific tissue or group of cells unless it be assumed that there exists a susceptibility on the part of the tissue or cells to such toxic substances, or that the latter possess a selective action, or that there is present a combination of the two conditions. It is also difficult to understand how or why the onset can be generated from such varied and wholly unrelated circumstances and conditions. From present viewpoints one is forced to the conclusion that the pathology both as regards the development of the inciting principle as well as the method of action is a wholly chemical one, unknown as to its composition and characters.

Treatment.—The treatment must be considered from two standpoints, that during the attack and that during the interval. If care be taken to note the premonitory indications it often is possible to abort the attacks, or at least lessen their severity by carrying out appropriate measures in regard to habits, diet and medication. It has been found that restricting the diet to liquids in limited quantity, the administration of a laxative such as calomel and phenolphthalein, and the avoidance of conditions tending to abnormally heighten mental or physical tension, will in many cases achieve such result. Some authorities advise washing out the stomach with an alkaline solution for the same purpose but I have never yet found it necessary to resort to it.

For the pain it has been found that where the above precautions have been taken some of the coal-tar derivatives suffice to relieve in the great majority of cases. It is well to combine with them such cardiac stimulants as caffein or camphor, not only to counteract the depressing effect of the coal-tar products, but they also seem to exert more or less beneficent effects. In some of the more severe cases it sometimes becomes necessary to resort to stronger hypnotics and opiates in some form. Bromids, chloral, codein, hyoscin

and opium all have their advocates. but I wish here to unreservedly condemn the readiness with which so many physicians resort to the use of morphia particularly as so many of these cases later become confirmed drug-habitués. Bromids are said to be indicated in cases where there is no change of color or where there is vaso-dilatation, and the combination with ergot often adds to their beneficial action.

Nitroglycerin or other vaso-dilators seems to be beneficial where pallor is present in the early stages, but is said to be powerless during the attack, and in some cases appears to intensify the pain.

Locally the application of mustard sinapisms, menthol, chloroform, hot or cold compresses often relieves.

Hydropathic measures in the form of hot general baths or packs also at times act beneficially.

The treatment during the interval may be summed up under the following headings:

1. Correcting errors in the mode of life.
2. Correcting errors and care in diet, ventilation and sanitation.
3. Correcting defects in general health.
4. Correcting constitutional diatheses.

Migraine Equivalents and Relation to Epilepsy.—A few words might be said of the so-called migraine equivalents and of the relation of migraine to epilepsy.

Epileptic seizures, cardialgia, severe dizziness, attacks of hemiparesis, severe pain in circumscribed parts of the limbs or body lasting a few hours or days, disappearing and regularly recurring are enumerated by various authorities as so-called migraine equivalents which may take the place of a migraine attack. It is assumed by some authorities that the attacks of migraine are an abortive form of epilepsy, or that persons suffering a long time from migraine may acquire it or they may be transformed into definite epileptic attacks, but Ströhlinger asserts that a transition from one into the other has never been demonstrated. Von Ziehen speaks of migraine-attacks at times being a symptom of epilepsy. Gowers calls attention to the common features in the sensory disturbances, the occurrence of both migraine and epilepsy in the same person, and the cessation of one on the appearance of the other in some cases, but he maintains that the processes differ in their course, in their associations and other features which imply a difference in their minute characters and pathology.

DISCUSSION

Dr. G. W. McCaskey (Fort Wayne): I wish to congratulate Dr. Neu on his very clear exposition of a subject which is at once the bête noire of the medical profession and one of those things which have created a great mass of literature which it is difficult to clear up, and from which it is difficult to extract the real facts.

I agree with Dr. Neu in one thing, and that is that if this disease can last a lifetime there must be some anatomical condition which is an etiologic factor. What that is, we do not as yet know. It is beyond our present means of investigation to determine the character of the changes which lead up to the repeated recurrences of migraine throughout a lifetime.

The doctor has referred to the well-known question concerning the relationship between migraine and epilepsy. It must be admitted that there are many points of resemblance, but I think the most careful investigation along this line and the most careful analysis have tended to show that there is no essential relationship between them. There are a few cases on record in which there has apparently been a transition from migraine to epilepsy, or vice versa. On the other hand I believe that it can be shown that this is not any more common among epileptics as a class than among those who are not.

In regard to the real pathology of migraine, we have another guess coming. We do not know enough about it yet to form a theory, but there are certain facts which seem to me express a great many of the manifestations, and these are particularly the vaso-motor changes to which the doctor has referred—the manifestations in the way of change in the pallor of the skin, and the vaso-motor changes in the nerve centers themselves. I would like to call particular attention to a theory which has been enunciated by Spitzgen, which assumes that the essential, underlying anatomical condition is sudden instability in the vascular condition of the choroid plexus. Anyone who will examine the choroid plexus will readily see that it may exert an important influence. But I think we must go a step farther and look for something which is not embraced in the term "vaso-motor changes." We must look to the nervous system itself for explanation of the peculiar changes of the character of the choroid plexus which result in migraine—both to the sensory and motor tracts as well.

The ophthalmic changes are certainly very important, and this seems to me to support the theory of vaso-motor changes being one of the manifestations of migraine.

Now, whether these theories are correct or not, it does not matter. The fact is that we are face to face with a very common malady concerning which we know very little. But we are not quite helpless. We cannot cure very many of these cases: we can do for them what we can do with

epilepsy—we can make the attacks lighter and farther apart. Take a case where they occur every week or two, and perhaps we can make them come every month or two, and make them as light as possible. Treatment should lie along the lines indicated by Dr. Neu, and it seems to me it should lie in one of three or four directions, with exceptions in regard to what might be called the auxiliary etiology. In the first place, there is a group of cases which are incurable, due to reflex disturbances of some sort; they may occur in the eye or the stomach.

Second, those the result of toxic disturbances. Whether the average case is the result of toxin is a different question. Independent of the general feeling as to whether toxins are primarily responsible, an auto-intoxication resulting from intestinal trouble may lead up to this disturbance of the nervous system and precipitate an attack. Then there is the over-strain of the nervous system. These three types occur to me. It does not make a complete list, but I think if we keep these three in mind they will help us to get a clear conception of the etiology and help us in a therapeutic way.

Dr. C. S. Bond (Richmond): It has been maintained for a long time that these cases of migraine are largely due — barring infections, tumors, etc.—to auto-infection. I do not believe enough attention is given to this part of the subject. We have a condition which has been going on for a long time. As a rule these patients do not come to the doctor for just a slight headache, but after the disturbance has gone on for five or six, or maybe twenty years. In that case there has been a factor which has operated on that patient all this time which has been more or less submerged, but which comes more and more to the front, very often coming on Monday. On Sunday the patient has eaten more than on any other day, and on Sunday he works less, as a rule.

Now, everybody has a certain power of resistance, but the line of least resistance in one body might be different from another. Take the tics, where we have certain symptoms in one individual that are not displayed in another. It seems to me, therefore, that the existence of migraine comes very largely from the fact that the final result of all this explosion happens in certain areas of the brain. I do not believe that migraine is a disease at all—but we could talk all day on this.

Now, you have an individual whose line of least resistance is auto-infection. If you study the individual character, as you will have to in these cases, if you study to see the underlying cause, and you find it is auto-infection, you have to find where the auto-infection is. It may be constipation; the patient may eat too much food, or too much of one kind. But by giving careful attention to these cases we can often cure a patient of migraine.

I had a patient, a woman who had had migraine for twenty years, and all I did for her was to put her on a limited diet, cutting out the things that I felt convinced, after investigation, were hurtful to her. She got fairly well, and has not had an attack of migraine for ten years. I know that is a better result than I will get in the next case, perhaps, but this cannot be done in a day, a week or two weeks. You must remember that all these people are "booze fighters"—with food. They have times when they do not eat, and then for a while they eat everything they get their hands on—and then comes another attack. That is the history of auto-infection cases, and I believe more and more that this is largely a condition of auto-infection. Of course these cases would respond very readily to any other sort of infection in the same place, probably because that is the weak place and very small provocation will bring on another attack.

Dr. Albert Sterne (Indianapolis): I think all of us must gather from the excellent essay and the discussion succeeding it, that the factor of greatest importance is that every case of migraine is a law unto itself. You cannot judge one case of migraine by another, or by a dozen cases of that kind. Each case must be studied for itself.

In the main I am inclined to agree with what has been said. This condition—because I am not treating it as a disease per se—is one of metabolism, largely. It is, in addition to that, a katabolic phenomenon, now this, now that, in a person who has a fundamental nervous instability. The paroxysmal attacks of migraine are to a degree like epilepsy; there is the same fundamental instability. I think we must take this fundamental instability for granted. We have a momentary factor and a fundamental factor. The momentary factor we can get at in various ways. That is not the most serious phase; but it is the fundamental trouble with which we are dealing. In those of congenital type, it is practically out of our reach, but I am not inclined to believe it is more congenital than anything else. At the same time we must conclude there is an anatomic condition in these cases.

We must not treat these cases in such a manner as to mask the symptoms. The treatment should not be during the attacks, but between them, and every case must be studied from its own individual standpoint. I believe that the doctor, the patient, and the patient's family fail to realize that we are dealing with the most difficult problem that confronts us in medicine. We must study these cases in every direction if we achieve success, and even then we often arrive at a disappointing result.

Dr. Neu (closing): I would like to call attention to one thing that Dr. Sterne mentioned, and that is the treatment. If I had an opportunity to say more of the treatment I would have called attention to the fact of the necessity of regulating

the habits and diet of these patients. I believe with Dr. Bond that these cases are dependent on auto-intoxication of an intestinal origin because the first thing you do is to clear out the intestinal canal.

Another point is that we must begin treatment during the two or three days of well-being at the onset of the attack, and not after the attack has begun. The benefit of the treatment depends on its beginning before the onset of the attack, because after that you cannot cut short the attack any length of time. You should begin the treatment at the beginning of the two or three days of exceptional well-being.

In regard to the statement of Dr. McCaskey as to the transitional cases of migraine into epilepsy: those who have investigated them very closely say that we must bear in mind that in epilepsy the minor attacks may be present for a long time before the immediate seizure occurs, and in most cases of transition of migraine into epilepsy there have been present evidences of these minor attacks.

THE WASSERMANN TEST AND ITS VALUE TO THE PHYSICIAN*

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CHICAGO

The Wassermann test is a seroreaction test for syphilis. In Europe the men to whom you should give the most credit for work along this line are Wassermann, Lesser, Bordet, Bruck, Citron, Ehrlich, Fleischmann, Gengou, Lavaditi, Marie, Morgenroth, Neisser, Nonne, Porges and Tschernogubow, etc. In this country Butler stands preeminently at the head. Others who have done considerable work are Long, of Birmingham, Ala.; Kaplan and Sach, of New York, and Levison, of Toledo, Ohio; Matson, of Portland, Ore., and Letterer, of Nashville, Tenn.

I know of no one's observations that would be so instructive of the great value of the Wassermann test as those of Lesser. Lesser, in his post-mortem studies of visceral lues, saw thirty cases of liver gumma that had not been recognized or diagnosticated clinically. In twenty-two cases no clinical symptoms pointing to lues had occurred. In eight cases of liver cirrhosis their syphilitic character had not been recognized. In nineteen cases gumma of the lungs, often combined with tuberculosis, had not been recognized. Three cases of gumma of the heart, and two of gumma of the suprarenals had not been diagnosticated clinically. Lesser's further post-mortem examinations show that in Berlin in about 9 per cent. of all men over 25 years lues is anatomically observable. Certainly these observations are instructive enough to the clinician to show the need of carefully eliminating lues as an associate or accessory factor in visceral and other diseases.

Butler and myself, to establish the value of the Wassermann test, made examinations in Cook County Hospital of all patients sick with diseases usually found in an institution of that character, and we also examined such other persons outside that we could find. In acute diseases we examined the cases in all stages of the disease and at different periods and long after complete recovery. By these repeated examinations we found when the reaction was positive at first examination. By following these cases it was found that positive reactions occurred in some instances long after complete recovery. We also found the reaction present in some persons sick with such chronic diseases as tuberculosis, rheumatism, etc. When we obtained a positive Wassermann we generally got a history of lues. We found the reaction present in practically all those conditions the etiologic factor of which is now known to be lues, as in general paresis, tabes, etc. We got a positive reaction in all stages of known active lues, from the first appearance of primary lesions, in secondary, in tertiary and in parasyphilitics.

In all primary external manifestations of lues I obtained a positive Wassermann, and following treatment of these cases I saw a disappearance of these manifestations, a weakening of reaction to a complete hemolysis of test, or with a disappearance of all external manifestations the Wassermann test became negative. In some few cases the clinical manifestations disappeared before the Wassermann test became negative.

This is true of late manifestations as well, except in some very rare cases of late lues that do not respond to any kind of treatment, and which continue to give a positive Wassermann. I have seen clinical manifestations return soon after vigorous treatment, with return of a positive Wassermann, and with resumption of treatment see the clinical manifestations again disappear and a positive Wassermann return to a negative Wassermann. Many others report the same experience or findings, clearly indicating to my mind the value of the Wassermann test in the diagnosis and treatment of active lues. A positive reaction is an indication of active lues somewhere in the individual, whether it be in some remote part with no clinical manifestations, or beginning of syphilitic invasion of more vital structures, as the nervous and arterial system, visceral organs, etc., and therefore an indication for active specific treatment.

*Read before the Indiana State Medical Association at Fort Wayne, September 28, 1910.

The least important manifestations in the life of a luetic are those that appear externally in the skin, mucosa, etc. These alone are an indication for treatment. It is the unseen syphilis giving no clinical manifestations which is of most importance to both patient and physician. No one would care to await the clinical disastrous manifestations of invasion of the more vital structures, such as the arterial and nervous systems, liver, lungs, etc., when we have in the seroreaction test the means whereby we can tell an active lues and possibly ward off such disaster.

No physician of to-day can say to a luetic that he is cured. He can say, however, that the patient's lues is not active, governing the prognosis by seroreaction test. No man is competent to treat lues who does not make use of the test tube and microscope, or take advantage of the laboratory work of others. That lues is more virulent in some than in others, or that some respond to treatment more readily than others makes it all the more necessary for frequent blood examinations. These examinations should begin within the first year after leaving off treatment in primary or secondary lesions and at intervals of every one, two or three years until you are assured of the virulence of the disease and the success of treatment. The treatment should be kept up a few months each year for at least the first few years, even in those that respond well to treatment. As no syphilitic can be assured that his disease will not again become active he must be kept constantly under the observation of his physician during life, and treatment every few years in connection with blood examination. By following this course many of the late forms of lues and possibly inherited lues, to a great extent at least, would be eliminated.

The discovery of the Wassermann test for lues brings with it new ideas concerning the treatment and care of luetics, and gives to the internist one of the greatest aids in diagnosis. To the incubator add the microscope, and luetics are correctly treated and cared for by those physicians to whom luetics properly belong, namely, the internist. At the same time we dispose of one specialist in the medical profession, the syphilographer.

An individual presenting himself for treatment for a known primary or even clinical manifestation of a known active late lues does not necessarily need the test. He should, however, have the test made soon after beginning treatment to determine the success of treatment. In primary or secondary lesions I would advise making the first blood examination six or eight weeks after beginning treatment. If at this time the patient's blood gives a strong positive reaction it is an indication for more energetic treatment. My observations are that the longer it takes in the treatment of primary lues for the test to become negative the more virulent the lues. I believe that the more energetically the lues is treated in the primary stage and the sooner the disease becomes inactive the more favorable the prognosis as to the future control.

After determining the success of treatment by first blood examination, treatment should be continued for ten or twelve weeks more. Then make a second blood examination. If treatment has been successful, as a rule the blood examination will show negative at this time, or at most a faint positive. Treatment should be continued for some time after getting a negative reaction whether the case has yielded to a short or to a long course of treatment. The shortest time in which I have observed a positive Wassermann become negative, and at the same time see the clinical manifestation disappear in primary or secondary lues, was sixty days. The patient was treated by inunction with the ordinary 50 per cent. mercurial ointment. Some observers have reported getting in primary lues a negative reaction as early as six weeks after beginning treatment. So far I have not seen a primary lues that did not yield to treatment.

As to the treatment of lues, to say nothing of Professor Ehrlich's "606," governing my observation by the Wassermann test, inunctions of the 50 per cent. mercurial ointment have given best results. Next to the inunction the intra-muscular injection, and third the internal administration of mercury.

Any person applying to a physician for the treatment of any disease and who gives a history of lues should have a blood examination. In fact most internists in Europe and many in this country now place the Wassermann test side by side with a blood count, urinary analysis, etc., in making up their clinical findings. If lues is active and associated with other disease in an individual you will get a positive Wassermann. On the other hand, you may have both macroscopic and clinical manifestation closely resembling an active lues and get a negative reaction, thereby eliminating an active lues.

To illustrate this I cite the following case: A southern gentleman had a throat trouble. He consulted a physician who diagnosed his ailment as either tuberculosis or lues. The physician eliminated tuberculosis and then referred the patient to a syphilographer at San Antonio, Texas, who diagnosed the throat trouble as lues.

Not being satisfied, the patient went to Dallas, Texas, to consult another syphilographer who confirmed the previous diagnosis. The patient being more dissatisfied than ever came to Chicago for further consultation. The first two physicians he saw upon his arrival in Chicago were syphilographers, both confirming the Texas physicians' diagnosis. The patient then consulted a throat specialist who referred the patient to me for a Wassermann test which proved to be negative and eliminated syphilis as the etiologic factor. The throat specialist then had a microscopic examination made of a smear from the throat and the trouble proved to be a Vincent's angina. As a further proof that the throat trouble was not lues, or lues associated, the patient was treated for his angina only, and made a rapid recovery.

Lues is frequently found active where you get no clinical manifestations or history of lues, and at the same time the patient is sick with some other disease. An individual may have tuberculosis of the lungs and active lues of the lungs at the same time, or tuberculosis of the lungs and an active lues of some other vital organs or remote insignificant parts at the same time. I may say the same of the heart and liver diseases, etc. I have more frequently obtained a positive reaction of lues associated with tuberculosis than any other one disease, this no doubt being due to the fact of there being more tuberculosis. I have obtained a positive reaction in persons who have had their disease diagnosed as tuberculosis of the lungs, but where no tubercle bacilli could be found, and put them upon specific treatment with resulting great improvement of the lung trouble. These cases were in all probability lues of the lungs. I have obtained a positive reaction in persons with valvular heart trouble, having irregular and intermittent pulse, put them upon specific treatment and got rid of the heart murmur and irregularity of the pulse and seemingly entirely relieved the patients of all heart trouble.

Dr. Robert H. Babcock of Chicago says: "The value and necessity of the Wassermann test in ordinary practice have been amply borne out by my experience with it this winter. Of a number of cases thus treated, one was combined pulmonary tuberculosis with aortic insufficiency. As this man had attacks of hemoptysis, and suspecting there might be a syphilitic basis, I had the test made and the reaction was positive. He was put upon mercury, and his physician reported within three weeks marked improvement and cessation of the hemoptysis. Another man, a negro, who had been in the Cook County Hospital with aortic insufficiency and presented all the signs of aortic insufficiency with mitral incompetence gave a positive reaction. This was two months ago. He has not been given one drop of medicine save mercury and today all signs of aortic insufficiency have disappeared. Hypertrophy of the heart remains. The aortic second tone is loud and clear. There is no diastolic murmur, and the man has lost all his cardiac symptoms. A third case, a man with aortic aneurysm who persistently denied infection, gave a positive reaction. He was put upon mercury, and the change in his condition was simply astonishing to him and me. The first symptom to disappear was pain, and the aneurysm itself is showing unmistakable evidence of retraction. I believe that in every case of aortic aneurysm the Wassermann test should be made, and if positive the patient should be put upon mercury."

I wish to cite just one case of liver trouble. This was a man about 35 years old. He gave a history of having been sick for some time. Not a drinking man, no history of any disease that might cause his trouble, and no history of lues, absolutely denying ever having had such a disease. The patient has had but little elevation of temperature at any time. The liver was not easy to palpate owing to very great ascitic distention of abdomen. He was somewhat jaundiced and had great distress in breathing. Cirrhosis was seemingly the only diagnosis. A Wassermann test was suggested, which proved to be strongly positive. The patient was put upon mercury and soon began to improve. Improvement continued as long as the patient was in the hospital. Thinking himself sufficiently recovered he left the hospital and was lost track of.

Dr. Alex Wiener presented an interesting case before the west side branch of the Chicago Medical Society at the West Side Hospital. The patient was a lady 55 or 60 years old. She was brought to the hospital to be operated on for a large tumor in her abdomen. Her condition not being good the physician decided to keep her in the hospital for a few days before operating. An ulcer on the leg above the ankle and some other findings aroused suspicions of lues. A Wassermann test was made which gave a positive reaction. While trying to improve her general condition he put her on specific treatment, and to his astonishment the tumor began to disappear and when I saw her the tumor had almost entirely disappeared. The diagnosis was luetic tumor.

I will refer to a few cases of diseases of the nervous system.

Case 1.—A male, 35 years old, gave a history of having had lues four years ago, treated the

first year with mercury internally, followed by two years of iodid, the last six months taking from 125 to 225 grains of the iodid each day. In 1907, about one year after leaving off treatment, he began to have trouble with his eyes and could get no glasses that gave relief. About the same time he began to have symptoms somewhat like vertigo. While walking on the street he would lose his sight, or as he would say, "go blind for a minute," and if he could not get hold of something or someone to hold him, he would fall. His mind would be blank for a few seconds, and he never had bad feelings after such attacks except the anxiety of their frequent occurrence and possible consequence. I made a blood examination which gave a positive Wassermann reaction and he was put upon specific treatment. In less than two weeks he was very much improved. It was four months before his blood gave a negative Wassermann reaction, his clinical manifestations disappearing some time before his blood showed negative. Treatment was continued for four months more, and he has shown no clinical manifestations since. I made a blood examination last May and again obtained a positive Wassermann reaction. He was again put upon treatment and a blood examination two weeks ago showed a weak or faintly positive Wassermann reaction. He is yet under specific treatment which will be continued for some time.

Case 2.—A gentleman 50 years old. No history of lues. General condition good. His eyes gave the only symptoms or trouble complained of. Had almost lost the sight in one eye and the other very much weakened. His physician not sure that lues caused his trouble, referred him to me for a Wassermann test, which was positive. Upon specific treatment the sight in the bad eye was very much improved and in the better eye the sight seems to be entirely restored. He has attended his business for the last year and a half with no symptoms of any eye trouble.

Case 3.—A lady 50 years old, with symptoms of brain tumor or brain syphilis, was referred to me for a Wassermann test, which was positive. Upon mercurial treatment she improved greatly, and her mental condition, which was very bad, was quite restored. Her friends not liking the diagnosis of lues, and she not making a complete recovery, another physician was consulted who diagnosed her trouble as brain tumor and advised an operation. She was operated on and no tumor found. The operation completely wrecked the patient.

I have seen persons treated for neurasthenia whose blood examination gave a positive Wassermann reaction, who, when put upon mercurial treatment, were relieved of their supposed neurasthenia.

The Wassermann test will also assist the physician in relieving the minds of those persons who think they have lues and are not affected with the disease.

In pregnancy of a suspected syphilitic mother both the father's and mother's blood should be examined and if either is found positive the mother should be put upon specific treatment whether she shows a positive Wassermann or not. The mother's blood should be examined every two or three months during her pregnancy. No child should be permitted to nurse a mother who has shown a positive Wassermann at any time. A mother's milk of an active syphilitic will show positive to the test as well as her serum. Before employing a wet nurse both the milk and blood, as well as the blood of the child which she is to nurse, should be subjected to a Wassermann test. This is done to protect the nurse from the syphilitic child. A child born of syphilitic parents should have its blood examined from time to time and not put on treatment until it shows an active syphilis. By Wassermann test in a few years the value of Colles' and Profeta's laws should be more satisfactorily established.

Syphilis should be required to be reported by attending physicians to the health department, whether the disease is acquired or congenital. If a crusade was made against syphilis as against tuberculosis syphilis in a few generations would be exterminated. The question of marriage of syphilitics should be more closely guarded than at the present time. If syphilis was made a compulsory reportable disease, parents would see to it that men whom their daughters were to marry had a clean health record, and vice versa. Not only would reporting syphilis benefit the moral problem but also the economic problem as well. A great saving to the state, county and city would be made if syphilis were eliminated. It is astonishing to see in large institutions the number of incurable late syphilitics, to say nothing of those put out of employment or earning capacity outside of these institutions. These subjects, unlike tubercular subjects, may live ten, twenty, or thirty years, or perhaps even longer, wards of public charity; while tubercular subjects usually die in from one to three years or suspend their tuberculosis and return to employment or earning capacity. Again, tubercular subjects do not breed degeneracy, while syphilitics do. An active crusade should be instituted against syphilis for the health, moral, economic and intellectual uplifting of mankind.

MALARIA IN INDIANA *

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The history of any infectious disease always furnishes material of great interest to the student. Especially is this true of those diseases which at one time created profound social and economic disturbance in a given locality and which, on account of improved sanitary conditions, subsequently became almost unknown. There was a time when malaria was a veritable plague in Indiana. A short story of its ravages in the early days, and of the ideas and practices of the pioneer physicians not only has a humanistic interest, but also demonstrates the remarkable efficiency of scientific preventive medicine, assisted, as in this case, by industrial and commercial interests.

In addition to consulting the usual sources of historical facts, a letter was written to the physician longest in practice in each of the ninety-two counties in the State. Replies were received from only twenty-eight counties, but these were so distributed over the State, that every section was represented. Many of these letters not only contained valuable data, but were also rich in interesting reminiscence.[1] In addition to these letters the writer is indebted to Dr. P. H. Jameson (recently deceased) of Indianapolis, Dr. G. W. H. Kemper, of Muncie, and Dr. J. P. Simonds, Superintendent of the State Laboratory, for assistance in securing data and for suggestions.

The wide-spread prevalence and extreme malignancy of malaria in Indiana in early days, will seem incredible to the younger generation who have come to look on the disease as exceedingly rare and mild. Up to 1819, the general health in the pioneer settlements appears to have been good. But in that year malaria began to be epidemic. During the following three or four years, there was more fatal sickness than has been known before or since in the Middle West.[2]

In 1820 there was a visitation of intermittent and remittent fevers much more malignant than the ordinary fever and ague. Many new towns were almost depopulated. In Indianapolis alone seventy-two deaths occurred, a loss of one-eighth of the entire population in one year. The sale of lots in the recently platted capital city had to be postponed until the following year. The cultivation of the "commonfield" was neglected and great privation resulted. Food either had to be bought from the Indians or brought on pack horses for distances of sixty miles or more. Conditions at the new state capital were comparable to those found in Eden by Martin Chuzzlewit and Mark Tapley. The county court held in a wheelwright's shop once had to adjourn long enough to permit Judge Wick to lie down on a work-bench and shake off his chill. Teacher and pupils used to shake together without interrupting the school. Mr. James Blake, shaking every other day with ague, would employ his well days gathering new corn and grating it on a horse-radish grater for the sick.[3]

The scourge broke out on Blue River in Johnson county and prevailed to such an extent that there were not enough well persons to care for the sick.[4] It is reliably stated that in the fall of 1821 there was in the City of Columbus only one well man, a stalwart "six footer" who had evidently been brought up in the swamps. He was cook and nurse for the entire community.[5]

For fifteen years the disease returned each year with but slightly lessening severity. Distress was well nigh universal, and from the first of July till the first of October all work and business ceased and the few well ones devoted their time to the care of the sick.[4]

In 1836–1839 the fevers again became more severe. They steadily increased in virulence up to 1855–1865, since which time, they have gradually decreased. The later epidemics of malaria seem to have swept over the State with a sort of wave-like regularity. The worst years were those of the heaviest rainfall, which, by a curious coincidence, fell during 1845, 1855, 1865 and 1875. The last wide-spread epidemic was in 1865. By 1885 the disease had practically disappeared from many sections.

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* Read before the Indiana State Medical Association, at Fort Wayne, Sept. 29, 1910.

1. Letters were received from the following physicians: Dr. J. B. Shultz, Cass County; Dr. J. Myers, Crawford County; Dr. W. C. Henry, Dearborn County; Dr. G. W. H. Kemper, Delaware County; Dr. C. W. Schwartz, Dubois County; Dr. George Rowland, Fountain County; Dr. W. W. Blair, Gibson County; Dr. J. W. Gray, Greene County; Dr. W. J. Hoadley, Hendricks County; Dr. A. H. Shaffer, Huntington County; Dr. A. May, Jackson County; Dr. S. S. Selvey, Jay County; Dr. P. W. Payne, Johnson County; Dr. Jesse L. Hill, Lake County; Dr. A. C. Matchette, Marshall County; Dr. E. M. Bloomfield, Miami County; Dr. P. C. Holland, Monroe County; Dr. E. W. Keegan, Montgomery County; Dr. E. E. Triplett, Newton County; Dr. J. S. Dukate, Pike County; Dr. William M. Holton, Posey County; Dr. Arthur White, Spencer County; Dr. S. I. Brown, Starke Co.; Dr. S. S. Washburn, Tippecanoe County; Dr. Stephen J. Young, Vigo County; Dr. D. A. De Forest, Warrick County; Dr. J. B. Clark, Wayne County; Dr. M. T. Didlake, White County.

2. Harding, M. H.: Report of Committee on the Practice of Medicine, Trans. Ind. State Med. Soc., 1853, p. 27.

3. Stickney, Ida Stearns: Pioneer Indianapolis, Civic Studies of Indianapolis, No. 1, pp. 29-31.

4. Terhune, R. W.: Historical Sketch of Medicine and Medical Men in the Early Days of Johnson County.

5. McCoy, George T.: Pioneer Physicians of Bartholomew County, Am. Med. Assn. Press, Chicago.

As has been noted, Indianapolis, from the time it was founded, was infested with malaria. In the summer of 1845, according to Dr. P. H. Jameson, hardly one person in six escaped infection.

The epidemic of 1854 and 1855 was even more wide-spread than the preceding ones. Every part of Indiana, high or low, wet or dry, was affected to a greater or less degree. In meteorological conditions, these two years had little in common. The summer of 1854 was extremely hot and dry; in the summer of 1855 the rain-fall was exceedingly abundant; yet, during both years, malaria was unusually prevalent and very fatal.[6] During the summer and autumn of 1856 2,051 cases were reported.

In the Wabash Valley, styled by Dr. Schell, "one of the most famous malarial districts of the world," the disease was endemic. The floods of spring and summer left bayous and ponds of shallow water to become the breeding place of innumerable mosquitoes.[7] In the other river valleys in Southern Indiana, the epidemics of malaria were milder. Along the old Wabash Canal, fevers of the severest type prevailed, until it was finally drained and filled in. "To-day over part of the old route, lie side by side, the river, the dry and half obliterated canal-bed, a railroad, and an electric line, representative of four distinct epochs in transportation."[8]

Malaria was also very prevalent in the northern part of the State, but has now practically disappeared except in the immediate vicinity of the Kankakee marshes.

The pioneer physicians ascribed the early prevalence of malaria to many causes; the warm weather of summer and fall, heavy rains, swamps, the drinking of slough water strained through a cloth to free it from "wigglers," poor dwellings, lack of screens, and to "terrible swarms of mosquitoes fierce beyond expression." In almost every instance, early practitioners from whom we received letters, ascribed the steady decrease and almost complete disappearance of malaria from Indiana to the drainage of swamps and low lands.

In the very early days, the pernicious forms of malaria were common, especially the so-called "congestive chills." Choleraic and comatose forms were also frequently seen.[9] The icteric type was less common and was believed to have been imported from the tropics.[10] Whole communities were kept in a constant dread, for pernicious malaria was frequently as sudden in onset and as fatal in termination as cholera. In later years, the less malignant and more typical tertian and quartan intermittent fevers prevailed.

Dr. White, of Spencer county, speaks of an intermittent neuralgia. The pain in this so-called "brow ague" was severe, coming on at a definite hour and yielding to the routine treatment for malaria.

Numerous sequelæ are mentioned. Marked enlargement of the liver and spleen could be found any day in general practice. Necrosis of the bones was more rare. In one case, there was death of the right tibia and fibula, said to have been due to malarial poisoning. In another, almost the entire left half of the inferior maxilla became necrotic.

In the early days, diagnosis gave the doctor little concern. However, as Dr. Chapman in 1833 considered malaria to be the cause of delirium, hectic, debility, rheumatism, diarrhea, hay-fever, catarrh, palpitation of the heart, palsy of the heart, hysteria, climacteric diseases, lethargy, drowsiness, and suicidal mania, we may conclude that some cases were malaria by suggestion, rather than by infection.

The remedy par excellence was quinin, the use of which was introduced into Indiana by the late Dr. Geo. E. Mears, of Indianapolis, who brought the first ounce into the State. At first quinin was given in small doses and the fevers were prolonged. When the degree of tolerance for it was learned, enormous doses were given. In a case of pernicious malaria Dr. Hutchinson records giving within thirty-six hours 100 grains of quinin and as much capsicum and peach brandy as the patient could hold. The man was cured.[9] Its high cost was a heavy burden, and many poor sufferers were obliged to let the fever "wear itself out," while others, in spite of the expense, carried quinin about in their pockets and took it as a sort of "morning dram" to help them through the day. It was administered in pills, capsules, compressed powders, tablets, elixirs, and syrups. Although the action of quinin was not understood, it was thought to be antagonistic in some way to the poison of malaria and the ringing in the ears, resulting from its use, was regarded as evidence that it had taken the desired effect on the nervous system.[11]

6. Jameson, P. H.: Personal Interview.
7. Schell, W.: Malarial Diseases in the Wabash Valley, Ind. Med. Jour., 1898-1899, xvii, 213.
8. Cottman, George S.: Internal Improvements in Indiana—the Wabash and Erie Canal, Indiana Magazine of History, 1907, iii, 105.
9. Hutchinson: Fevers of Indiana, Trans. Ind. State Med. Soc., 1864, pp. 29-32.
10. McMahan, W. R.: Icteric Forms of Pernicious Fever, Trans. Ind. State Med. Soc., 1880, p. 26.
11. Crooks and De Bruler: Quoted by Harding, l. c, p. 38.

The treatment followed by the general profession was that outlined by the late Dr. Parry[12] of Indianapolis, in a paper which was quoted approvingly by Dr. Geo. B. Wood in his "Practice of Medicine." The routine treatment consisted in controlling the high febrile reaction following the first chill by "preparing the system," by emetics and cathartics, and by subsequently administering quinin. In the pernicious types so rapid was the course of disease that preparing the system had to be laid aside and tonics freely administered. Bleeding was frequently resorted to. Patent nostrums, home preparations (as tansy bitters), and even charms and amulets were employed by the despairing sufferers.

In 1860, the Committee on the Progress of Medical Sciences,[13] appointed by the Indiana State Medical Society, reported that "In malaria the red blood-corpuscles are diminished according to the extent and severity of the disease."

Dr. Pantzer,[14] who reported several cases before the Indiana State Medical Society in 1892, remarked that as a hematozoon had been found in the blood of infected persons, he thought that its recognition should be made use of in diagnosis, even though its relation to this disease had not been established. In 1893 Dr. Theodore Potter[15] while making his first examination for malarial parasites, found crescent forms in the blood of a patient from Arkansas. In 1899 Dr. Schell[7] published a short description of the malarial parasite, based on personal observation, made in 1884, correctly claiming that it was in the red blood-cell and that it was the cause of malarial paroxysm.

In 1898, following the return of the soldiers from the South, from Cuba, and from Porto Rico, a wave of malaria swept over the State. While the returned troops were stationed at Camp Mount, Dr. Dodds and Dr. Schaeffer were appointed to make a systematic examination of every case.[16]

Within the last three years Dr. Geo. W. Marshall,[17] of Kokomo, has reported an epidemic of malaria in Howard and Cass counties with the center of infection in the vicinity of Young America. In 1907, under the direction of the State Board of Health, an investigation of the epidemic was made by Dr. Helene Knabe formerly acting superintendent of the State Laboratory, the results of which will be found in the annual report for that year.[18]

From March, 1909, to September, 1910, twenty-eight of the specimens of blood received at the state laboratory were found to contain malarial parasites. This is a greater number of positive specimens than had been received during its entire previous history. Their distribution by counties, is as follows: Allen one, Clark one, Dubois one, Elkhart one, Fountain two, Grant one, Green one, Madison one, Marion eight, Noble one, Parke one, Posey one, St. Joseph one, Vanderburg four, and Vigo three. Of these cases, eleven were said to have acquired their infection outside of the State; three in Arkansas, one in Oklahoma, one in Illinois, one in Louisville, two in St. Louis, one in the American Bottoms along the Mississippi River in Illinois and two indefinitely South. In five cases, the place of infection was not stated. In the remaining twelve cases, the infection was acquired in Indiana. These twelve cases occurred in St. Joseph, Noble, Greene, Montgomery, Parke, Posey, Fountain, Vigo, and Vanderburg counties. Each of these counties is closely related to some important river. The case reported from Noble was said to have acquired the infection in Marshall county. Of the twenty-eight cases, eleven were females and seventeen males. The ages varied from four to seventy-two years, one-half being under twenty-five. Five specimens of blood contained estivo-autumnal parasites. These patients got their infection in St. Louis, Arkansas, Western Illinois, in the Wabash Bottoms and the South respectively. Seventeen contained tertian parasites, while in six it was not possible to determine accurately the type.

These twenty-eight cases do not by any means represent the total number occurring in Indiana during the year. But they do furnish positive evidence that the disease has not been completely eradicated as many physicians claim has been done. The anopheles mosquito is to be found in almost every part of the state and every patient, whether he imported the disease or acquired it here, is a source of infection. Hence, we have the two factors necessary to the spread of malaria. This is not written in the belief that malaria will ever again be prevalent in Indiana. The State is too well drained and the people are too progressive to permit it. But physicians should keep

12. Parry, Charles: Congestive Fever, Its Character, Symptoms and Treatment, as Met With in Central Indiana, Am. Jour. Med. Sc., 1843, vi, 28.
13. Brower, J. H.: Report of Committee on Progress of Medicine, Trans. Ind. State Med. Soc., 1860, p. 43.
14. Pantzer, H. O.: Malarial Intoxication, Trans. Ind. State Med. Assn., 1892, p. 29.
15. Potter, Theodore: The Parasites of Malaria, Trans. Ind. State Med. Assn., 1899, p. 209.
16. Dodds, W. T. S.: Clinical Features of Malaria as Seen at Camp Mount Hospital, Trans. Ind. State Med. Assn., 1899, p. 197.
17. Marshall, George W.: Aestivo-Autumnal Fever, Trans. Ind. State Med. Assn., 1907, p. 292.
18. Knabe, Helene: Report of Ivestigation of Epidemic at Young America.

in mind, that malaria does exist in this State and not allow an incorrect, preconceived opinion as to its absence to influence their diagnosis in the occasional sporadic cases they are likely to meet at any time during the summer or fall.

DISCUSSION

Dr. Geo. D. Marshall (Kokomo): There is an idea that the anopheles mosquito is a rare one. That is because you do not know him. I have been studying mosquitoes for four years, and they are plentiful. I can go out and catch three or four of them any time I want to around Kokomo. I have specimens of the mosquito in my pocket. One is alive. I caught it yesterday. The people do not recognize the anopheles as a mosquito.

I had a case last Sunday of a boy who had spent three months in bed from malaria fever. His doctor was treating him for malaria fever at the time. I was called in consultation and gave him quinin in solution and the fever began to disappear, although it does come back once in a while. Sunday his grandmother was sick and I was called to see her. She was vomiting, and had a temperature of 103. I asked if there were any mosquitoes, and they said there were some, and they caught one. A year ago a young man in our town died from malaria. A diagnosis of malaria was made by myself, but there was a difference of opinion, and he was treated for tubercular meningitis. There is a large family living in that house now, and nearly all of them are sick. I went out and looked around the yard, and there I found a mosquito in a shed, and the children played in that shed. That's where they got the malaria.

AN OVERLOOKED FACTOR IN IMMUNITY*

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There is no question of greater interest before the profession to-day than that of immunity, inherent or acquired, and none more important; for it is understood that the solution of this question would do more than anything else toward the control of disease.

I do not claim to settle the question in this paper, but only to call attention to a factor of fundamental importance which has been entirely overlooked. Those hitherto offering an explanation of immunity, have dealt exclusively with the chemical aspect of the question; principally with the chemical changes occurring in the blood—especially in its serum—the development of antibodies in it, and, incidentally, chemical changes which may occur in the protoplasm of the cells. There is no doubt that these chemical changes play a part in the development of acquired immunity; but they, by their presence, do not constitute immunity. They are evanescent factors, producing a more or less permanent change in the tissues; and this change is not alone chemical. Of far more importance is the physical change which is produced by the incidence of irritating elements, circulating in the blood, on the fixed tissue elements of the body called cells.

The position taken in this paper will appear reasonable only to him who accepts the doctrine of evolution. It is a well-established scientific truth that the original form of organic life was a microscopic speck of protoplasm. This primitive protozoön was absolutely undifferentiated. It was absolutely homogeneous, and destitute of a cell-wall or limiting membrane. From this homogeneous mass have been evolved every organic body from that time until now, and the physical laws that saved it and modified it save and modify us to-day.

The law of the "persistence of force" is this: Every body acted on by any other body undergoes a change in structure, and every structure, whether organic or inorganic, is constantly undergoing change through its reaction against forces coming in contact with it from its environment. The force, spending itself against a structure, is not lost, but reestablishes itself in a change in the structure on which it spends itself. This action and reaction is unceasing.

The law of the "survival of the fittest" is this: Those structures or organisms, subject to this action and reaction, which survive, have registered in their structure changes, either chemical or physical, or both, which render them more able to survive the shock of the next incident force. Those unable to sustain the force of this action and reaction are destroyed; those which do survive are strengthened. Only those surviving reproduce themselves, and these transmit, not only their original greater vitality, but also any additional vitality acquired through the action of the law of heredity.

One of the first changes wrought in the primitive monocellular protozoön, by the irritation in its environment, was the development of a limiting membrane or cell-wall. This was a *protective* change, guarding its delicate structure against irritants in its environment.

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* Read before the Indiana State Medical Association, at Terre Haute, Sept. 28, 1909.

In the original protozoön, not fixed but movable, this change was not marked, for no part of it was constantly exposed. It had no permanent external and internal parts, but when, through evolutionary changes, organisms became multicellular, fixation of cells occurred and exposure of a certain part to environment became fairly constant. Then it was that, among other changes, the development of the cell-wall became rapid and pronounced; and, with the physical change produced by the reaction of the protoplasm of the cell against the action of irritants involving it, this physical change in the cell-wall became, not only more pronounced in the individual cells of those organisms that survived, but, through the transmission of this acquired invulnerability to their offspring, the invulnerability of the race of these organisms was increased.

It may seem to some a far cry to try to trace a part of our immunity to disease to the struggle for existence of the primitive protozoön; but it seems not unreasonable to me, for we are but masses of countless millions of these cells. The fixed tissue cells have their limiting membrane, while in the leukocytes, destitute of cell-wall and floating in a saline sea, we reproduce the dawn of organic life in the sea of the world. In these two elements, the mural and amural cells, we may read the history of organic life from the beginning until now.

If it be granted that there can be no action without a reaction that is equal and opposite, and that the product of this action and reaction in all organisms is a physical change protective to life in all that survive the shock; if it be granted that this law, together with the law of the transmission of acquired characteristics by heredity is the foundation of the evolution of all organic life, I can see no valid argument against the theory that the formation of a cell-wall, as a protection against external irritants, is not only one of the factors but the most important factor in our acquired and inherited immunity to disease.

It is a fact that every disease, one attack of which confers an immunity against subsequent attacks, is a disease characterized by the circulation of ptomain in the blood which bathes every cell in the body; and the circulation of these ptomains, with the reaction produced by their action on the protoplasm of the cells, is the chief phenomenon of these diseases.

Now, it is a truism of science to say that the reaction of the protoplasm of the cells, against these irritant poisons bathing them, produces a physical change in the cells. To deny that is to deny the validity of the law of the "persistence of force"; and since the cell-wall is the product of the reaction of protoplasm against irritants hitherto encountered, it cannot be otherwise than that the ptomains of disease produce in the same way an increase in the thickness and resisting power of the cell-wall against these irritants. To deny this requires a denial of the protective function of the cell-wall.

The theory here discussed presupposes the cell-wall to play the same part toward the cell as the skin and mucous membrane play toward the body as a whole. Anatomically, it is strictly analogous. The cell-wall completely encloses the protoplasm of the cell; the skin and mucous membrane form a continuous membrane, within which are enclosed every cell of the body as in a closed sac, and this skin and mucous membrane are formed of epithelial cells, varying in form according to their location and the circumstances surrounding them.

The fact that these cells, identical in origin, vary, not only in form but also in function, directly as a result of their reaction against their environment, is the best proof of the point I would make.

The mucous membrane, on account of its location, is free from the highest irritants under ordinary circumstances. Its cells are soft and the cell-wall thin and only slightly protective. Consequently, notwithstanding their protected location, the vast majority of infections gain entrance here. That these cells are increased in their protective function, by irritants insufficient to destroy them, is shown by the tolerance of the urethra to the frequently introduced catheter with decreased liability to infection. Microscopic examination of these urethral cells would show hardening and increased thickness of the cell-walls.

The epithelial cells of the skin have an entirely different environment. They are constantly exposed to violent irritation, and, directly as a result of their reaction against their irritating environment, these epithelial cells, identical in origin, are diametrically opposed in structure. The mucous cells have thin walls and abundant protoplasm. The skin cells exposed to friction of clothing, the drying effects of sun and air, heat and cold, have the minimum of protoplasm and maximum of cell-wall thickness. In fact, the external layer of the skin becomes the horny layer, through loss of protoplasm and increase of the thickness of the cell-wall.

The effect of environment in producing this thickness of the cell-wall is no less shown in the

skin itself. It is only as its deeper layers approach the surface that these physical changes occur. It is here, also, that the protective effect of this thickening and increased resisting power to infection is shown, for only a comparatively few cases of infection occur through the skin and these by extreme violence.

Now, the causes mentioned, as modifying the structure and protective function of the cell-wall of the cells of skin and mucous membrane, are mild compared with the virulent ptomains circulating in the blood and bathing every cell of the patient suffering from an infectious disease; but the law, that every cell, affected by an irritant but wholly recovering from the effects of it, has registered in itself, an increased resistance to that irritant through a physical change in the thickness of its cell-wall and is the same for all cells as shown in skin and mucous membrane. By reason of this the patient, recovering fully from such a disease, has more or less complete immunity from that disease.

It might be argued that, if this theory be true, any infectious disease would, through its ptomains circulating in the blood, produce this physiologic change in the cell-wall, and thus one attack of any infectious disease would produce immunity against all infection. That does not necessarily follow, for it must be remembered that immunity may be either complete or relative. This is due, so far as acquired immunity is concerned, to the fact that each particular irritant produces two effects, (1) a specific reaction on the cell-wall increasing its resistance to that specific irritant; (2) a general reaction against all irritants whatsoever. Thus, the specific effect of typhoid ptomains is to protect against typhoid in patients fully recovering from it, while the general effect of typhoid, under the same circumstances, is to increase to some extent the resistance to every other disease. This specific effect is shown in every patient in whom one attack of an infectious disease has conferred complete immunity. The general effect is shown as follows: It is well known that the vast majority of acute illnesses occur during childhood, and, that as age increases to maturity, immunity from all diseases increases. The statistics, showing these facts, take all individuals into consideration, and it necessarily follows that, since the majority of persons have suffered the diseases of childhood, they must have had, not only the specific immunizing effects of the particular diseases from which they suffered, but the general immunizing effects of those diseases as well; and these combined specific and general effects registered in the cell-wall of all the cells explain the freedom from liability to infection of all adults.

The same thing is shown in another light. Chronic invalids seem less liable to contract acute diseases than those in good health; and, if they do contract an acute illness, often recover in the most surprising way. On the other hand we have seen strong men, whose truthful boast was that they had never been ill, when stricken with acute illness, die as abruptly as though they had taken a dose of poison. In the one case, chronic invalidism had, by the constant presence of mild ptomain intoxication, induced the physical change in the cell-walls, mentioned above, with resultant partial immunity against a new infection. In the second case, the man had had no acquired immunity from preceding disease, fully recovered from. He had to depend on his inherited resistance to disease, and it was insufficient. The same thing is shown again in the fact that relapses in acute illness are usually of shorter duration than the primary attack. Patients recovering from an acute illness rarely are stricken with another acute illness during convalescence. Although weak, their resistance to infection seems increased.

It is thus seen that every disease establishes two grades of immunity. One is a specific and complete immunity, temporarily, against that specific infection. The other is a general relative immunity against every other disease. The scarlet fever patient, loaded with scales that are virulently toxic, for four weeks, is safe himself but a menace to all non-immunes who may come in contact with him.

What are the practical lessons to be drawn from this theory? First, we have, in the protective reaction of the cell-wall against all irritants, the rationale of the action of antitoxins; and second, the hope that irritants may be discovered which, by either their specific or general reactive changes, may protect persons from the ravages of disease, as we already have in the immunizing effects of the various antitoxins and vaccines. Again, since acquired characteristics may be transmitted through heredity, we may hope that, through survival of the fittest, evolutionary changes in cell structure, along the lines here discussed, may be brought about that will be protective to the race.

That protective physical characteristics may be and are transmitted is shown in the fact that such structural characteristics are transmitted through heredity in the soles of the feet and palms of the hands in new-born children. We see some signs of the coming immunity in the fact that some persons, though repeatedly exposed to infection, never succumb to it.

The question may arise in your minds why, if this theory of immunity be true, does one attack of any infectious disease not produce immunity from subsequent attacks in every case? But that objection is not more valid against this theory than any other. Perfectly rational reasons might be given for its failure. Infection, in overcoming an acquired immunity, depends not only on the resistance of the cells but also on the virulence of the infective agent. The resistance of the skin against infection is practically perfect, and yet a virulent infection, held in contact with it long enough under proper conditions, will penetrate it.

I have shown that the protective function of the skin and mucous membrane is due to the thickening of the cell-wall by reaction of the protoplasm against irritants in its environment. That the cell-wall of the fixed tissue cells has the same function is conclusively shown by the fact that wound surfaces, covered by healthy granulations, are immune to infection.

I am convinced that the theory of immunity here set forth explains more concerning immunity than any other propounded. The chemical changes in the blood are evanescent and transitory. New bodies in the blood are abnormal, and are hurried on to destruction and elimination by every available force of the economy; and by the time convalescence is fully established they have disappeared. Now, if immunity depended on their presence, it would disappear with their disappearance. But it does not disappear; it remains after they are gone. We have to find, as the basis of a permanent immunity, a permanent change in the economy; and nowhere else do we find that permanent change but in the thickening of the protective cell-wall produced as described above.

It has been stated above that two effects, protective in character, are produced by every disease fully recovered from. The one specific against that particular infection, the other general and indefinite against any infection. This latter enters more largely into our immunity than we realize, for we are more immune than we know. Everyone is constantly exposed to infection from multitudinous organisms and yet many do not succumb. We explain this by a sufficient physiologic resistance. But physiologic resistance is only another name for present immunity, and it is that which we are called on to explain. If we cultivate the germ of scarlet fever from the throat of a person who never had scarlet fever, and who does not contract it from this exposure, that immunity cannot be explained by any action of scarlatinal poison on that organism; but his immunity is explicable on the theory that the many irritant ptomains from other diseases from which he has suffered have, by their action on the cells and the reaction of the cell against them, gradually increased the protective function of the cell-wall of his cells against any infection whatsoever.

In conclusion let me say that this factor of immunity does not preclude the action of any other that has been offered. It rather includes and explains them all. No matter what blood changes may occur in disease, each is a factor in this theory. Any deviation from the norm of the blood inevitably produces an irritation of the cell-wall of every cell. And, since there is no action without an equal reaction, these irritants produce, by this action and reaction, a protective physical change in the cell-wall by increasing its thickness and resisting power.

In the November number of The Journal we called attention to one, Dr. George Thain, of Fort Wayne, who, if all reports are true, makes a practice of victimizing the incurable blind. While the November number was in press we received a letter from a reputable Ohio doctor who in no uncertain language denounced Dr. Thain as an impostor and cited an instance where the said Thain had, on the promise of restoring sight, attempted to secure a large sum of money from a poor man, incurably blind from atrophy of the optic nerve. The letter concludes with this pertinent statement: "It is up to the Fort Wayne doctors and your Indiana State Board of Medical Registration and Examination to put such impostors out of business."

Quacks flourish in Indiana purely as a result of the apathy and indifference of the reputable medical profession. The State Board of Medical Registration and Examination is given the power and authority to revoke licenses and suppress quackery on being furnished satisfactory evidence. The evidence can and should be procured by medical societies. The work should not be left to individuals except when acting under the direction of societies that assume the responsibility. A little effort in this direction on the part of the county medical societies of Indiana would soon result in ridding the state of the worst of the medical quacks and especially those who are criminally imposing on the poor and the ignorant.

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EDITORIALS

MATERNAL NURSING BY ECLAMPTICS

Although founded on a very small series of observations, yet the question "Should Eclamptic Mothers Nurse Their New Born," propounded by Goodall, in the January number of the *American Journal of Obstetrics*, is one that merits the most careful attention and fullest consideration at the hands of obstetricians of wide experience. While the fetal mortality in cases in which eclampsia has come on during pregnancy or labor has, for some time, been known to be very high, about 50 per cent.[1] yet the subject of the transmission of the eclamptic symptoms to the fetus at, or subsequent to, birth seems to be an untouched one and its literature correspondingly scant.

Goodall's attention was drawn and his interest aroused by an almost identical syndrome of symptoms produced in three apparently healthy infants by the first copious nursing from their eclamptic mothers. Death occurred in so similar fashion in each of these that the only rational deduction apparent was that the fatal issue must be ascribed to a common cause.

Briefly his cases were as follows: Case 1. A robust mother of three children went through a normal delivery of an apparently healthy infant which cried lustily immediately after birth. On the second day the mother complained of a slight headache and on the third day went into eclamptic convulsions and died in the evening from respiratory failure during coma.

At 5 a. m. of the third day the child had its last nursing, which was also the first successful one, the breasts having filled rapidly during that night. Five hours later the child's finger-tips and nails were observed to be blue, the ears and feet cold. Increasing cyanosis, irregular and subsequently Cheyne-Stokes respiration, abdominal distention and finally convulsions and respiratory failure supervened. Although the radial pulse was distinctly palpable for some time after cessation of respiration, and artificial respiration gradually relieved the cyanosis, yet death occurred a little past 6 p. m.

Case 2 differed little from the first save in the fact that the toxemic symptoms manifested themselves first during the last month antepartum, although the first convulsive seizure did not come on until thirty-two hours after delivery. No satisfaction at the breasts was received by the child until the morning of the third day, when it had a full nursing and ceased to cry. But six hours later cyanosis and cold extremities were noted and the same syndrome succeeded as in the first case and with the same fatal issue.

Case 3 was that of a strong, healthy woman in her third pregnancy, who suffered from albuminuria during her last two months of pregnancy. Hydramnios and renal insufficiency followed but save for some slight convulsive symptoms during the second stage the patient went through labor without accident. Loss of appetite and severe headache were experienced on the second day postpartum and symptoms of renal insufficiency were in evidence. On the third day there was a marked improvement in the mother but after a ravenous nursing at 7 in the morning, subsequent to the filling of the breasts during the previous night, the baby would not take a second nursing and seemed unusually drowsy. Examination of the child revealed the same clinical picture: duskiness, cold extremities, blue nose, shallow and irregular respirations and muscular rigidity from time to time in the lower extremities. At 6 p. m. the respirations had ceased, with the same persistence of circulation as in the other cases, but death followed a half-hour's fruitless efforts at resuscitation, although the cyanosis had yielded to artificial respiration.

Unfortunately no report of the autopsies on these infants is appended, if indeed such were made, although several authors are quoted who have posted their babies that have suffered from apparently the same disease.

Von Winckel, in 1893, was the first to lay stress on the necessity of post-mortem examinations of children born of eclamptic mothers. Bar and Guyiesse, in seventeen such children, found signs of general intoxication and in many the lesions were identical with those of the mothers whose eclampsia had proved fatal. Advanced renal degeneration and hemorrhage in the liver were found by Schmorl in all six of his little patients. Like lesions are reported in five cases by Lubarsch. Prutz, Chamberlent, Knapp, Dienst and Williams record similar findings.

1. Hirst: Text-Book of Obstetrics, 1910.

Several cases are recorded wherein infants born of eclamptic mothers or whose mothers presented the early symptoms of eclampsia, developed true eclamptic seizures within the first three days after birth, and in the fatal cases showed at autopsy organs affected similarly to those of eclamptic women, the kidneys especially showing marked degeneration, associated with albuminuria and hematuria. In view of the recent findings of Crile of brain-cell degeneration in cases dying of severe toxemias, Wilke's case of toxic encephalitis found at autopsy following typical eclamptic seizures after birth is exceedingly interesting.

Dienst cites seven cases of eclampsia or threatened eclampsia in the mother, and with either signs of advanced nephritis or with true eclamptic seizures in the offspring, symptoms of acute nephritis being present in all cases.

So that it seems fair to presume that instead of the offspring of eclamptic mothers being healthy children, they almost invariably show marked structural changes in the viscera, indicative of grave intoxication, evidences of more or less renal injury being manifest in all whose urine was examined. And in all cases that succumbed, grave structural changes in the liver and other viscera were present.

Indeed Goodall is of the opinion that eclampsia in the mother is a fruitful source of many cases of chronic nephritis in children. He mentions the simple way of obtaining a specimen of urine from an infant, devised by Fry, viz., the application of cold to the abdomen or buttocks two hours after the last urination.

Regarding the toxicity of the milk of eclamptic mothers only theoretical evidence has as yet been adduced although it would seem that definite data might be readily available by inoculating or feeding guinea-pigs with such milk and checking up the results by the similar use of milk from normal mothers. Since we know that bacteria and very appreciable quantities of drugs can pass over the milk of mothers, it seems reasonable to suppose that, in a woman whose blood is loaded with a severe toxic element and one of whose main channels of elimination, viz., the urinary channel, is considerably embarrassed, a secretory organ functionating as actively as do the breasts with the advent of full lactation, will carry with its secretion no mean amount of the stored-up toxin.

Kreutzman reports a case in which an albuminuric mother gave birth to an apparently healthy child which developed convulsions after nursing for two days but was immediately transferred to cow's milk and throve thereon.

It is possible that inasmuch as eclamptic seizures seldom come on until labor sets in, the contractions of the uterus by compression throw out through the large uterine lymphatics and veins, an overwhelming amount of toxins which, added to the already crippled condition of the fetus, may cause it either to die *in utero* during labor or fall an easy prey to the increased amount of toxin added by the first full nursing.

From his own experience and from his review of the literature, the author comes to these conclusions:

1. In a mother profoundly toxemic and jaundiced, it would seem well to feed artificially for quite a few days, and have the breasts pumped dry after the maternal toxemia has improved and before the child is allowed to nurse.

2. If the maternal convulsions come on post-partum (these are the most dangerous cases for the nursing infant) then allow the maternal elimination to go on until she is freed from the greater part of her toxemia and then empty the breasts before allowing the child to nurse.

3. If the albuminuria persists after labor, it will be well to feed artificially throughout infancy.

It is greatly to be hoped that larger and more complete data will be elaborated on this subject at an early date, in the hope at least of preserving those infants unfortunate enough to be born of eclamptic mothers and especially of post-partum eclamptics.

SALVARSAN PENDULUM SWINGING BACK

So accustomed has the scientific medical world become to disappointment that a certain pessimism concerning the ultimate possibilities of highly-vaunted remedies, and especially alleged specifics, is now proverbial. So that it appears as the most natural thing in the world that the claims for Ehrlich's "606" as the *therapia sterilisans magna* for syphilis are being daily proven to be considerably exaggerated. Wassermann reactions have either remained positive after a dose of "606" or, becoming negative, have later returned to the positive, late lesions have continued to manifest themselves and not infrequently the dose has had to be repeated one or more times.

William Allen Pusey[1] is indeed fearful lest we have launched forth toward a therapeutic fiasco similar to that attendant on the announce-

1. Jour. Am. Med. Assn., Jan. 14, 1911, pp. 118-120.

ment of Koch's tuberculin, whose specific curative powers were at first so overdrawn as to overshadow the real merits of the remedy, with a resultant blight that required years for its overthrow. And yet while "606" has fallen short of its heralded specificity, it bids fair to occupy a very important place in the therapeutic armamentarium for the treatment of syphilis. The evidences of cure established by salvarsan were dependent on the destruction of the spirochetes, the reversal of the Wassermann reaction and the removal of the clinical manifestations of syphilis. Failure to accomplish these results with the remedy are being reported with increased frequency. That the early disappearance of the spirochetes from the primary lesion is not a criterion for cure of the disease is demonstrated by the same effect not infrequently produced by mercury, to be followed years later by the appearance of tertiary manifestations of this same old infection.

While Pusey believes the Wassermann reaction to be a much more reliable index of effect on the disease, as being somewhat of an indication of the result on the whole organism, yet here too we find that prolonged mercurial treatment is capable of producing a negative Wassermann with a subsequent relapse to positive. So that the relation of the Wassermann reaction to the actual cure of the disease remains as yet *sub judice*.

As to the disappearance of the clinical manifestations, which is after all the most reliable guide to the cure of the disease, so far there has been the same variability in the response to salvarsan that is manifested by mercurial treatment, from those cases that are absolutely refractory to the drug to those in which the good results are extremely striking. But more and more cases are being reported in which the supposed cure has proved to be merely a temporary arrest of the process with a return of symptoms following later.

In cases of active secondary syphilis of the ordinary types treated with salvarsan, Pusey has not seen as marked benefit as with mercury, but many of the late or tertiary manifestations that have resisted all other forms of treatment have yielded striking results to the new drug. That the recommendation is being made of the use of salvarsan to be followed by mercury, as heretofore, he regards as the "last evidence that the new agent is not equal to its proposed mission." He very properly concludes that with the number of reports of untoward effects and the relatively early relapses that are already at hand we must hold that the position of this new drug is still in the unsettled state; that it does not cure the disease as announced and that as yet our main dependence is mercury, with salvarsan as a useful adjunct.

Fordyce,[2] too, feels that it would at present be premature to depose a remedy, centuries old in its clinical use and with whose action the medical world has had opportunity to become thoroughly familiar, for one that is as yet on decidedly uncertain ground.

One excellent point emphasized by Fordyce is that since it has been amply proven that those cases of syphilis stand the best chance of cure whose active treatment was begun very early, we are no longer justified in waiting for the appearance of secondary symptoms, inasmuch as we may now avail ourselves of the very definite diagnostic procedure of isolating the organism from the initial sore.

So very non-partisan does Fordyce's article appear that we cannot do better than quote freely from his conclusions:

"Except in a limited number of cases, salvarsan in a single dose has not fulfilled its promise of a specific in human syphilis. It is, however, a most efficient agent in controlling the early manifestations of the disease and in limiting the contagious stage. As mucous patches and condylomata are the active carriers of the contagion, and most of the cases of infection occur through them, the value of the drug in cutting short this period cannot be overestimated. A therapeutic blow struck in the early stage when the spirochetes are numerous must have a marked effect on the subsequent development of the disease.

"The result of one injection is fully equal to that of a prolonged course of mercury in the early stage and to a combination of mercury and potassium iodid in the later stage, with the advantage that we avoid the unpleasant by-effects of mercury, such as salivation. It is especially valuable in combating emergencies, as illustrated in the case of choked disc; in malignant syphilis; in hereditary syphilis; and in those cases that are refractory to mercury.

"The objections to its use are the pain which immediately follows the injection, the hospital care necessitated, and the present uncertainty in regard to its possible injury to the eye. Administration by the intravenous method entirely obviates the first objection, and it will doubtless be the method of choice in the future. It is, however, more difficult and requires more technical skill. . . .

2. Jour. Am. Med. Assn., Jan. 21, 1911, pp. 186-192.

"If by combining the mercurial treatment with salvarsan, we can accomplish a cure of this infection in six months and obtain repeated negative serum reactions, our views regarding the length of time that must intervene between the onset of this disease and marriage may be materially modified. We are not yet, however, in a position to issue any dogmatic rules regarding this very vital question.

"Until we know more of the possibilities of the drug with regard to the eye, an attitude of conservatism should be preserved. It would be better, therefore, for the present not to employ it as routine treatment, but only in cases in which it is especially indicated, observing carefully the precautions laid down by Professor Ehrlich. Every patient should be examined by an ophthalmologist before the drug is administered, and patients should have hospital care for four days to a week after. In the light of cases recently reported from Lesser's clinic, in which the general reaction did not appear until the ninth and twelfth day, it would be safer to lengthen the interval of hospital observation rather than shorten it."

THE INCREASE IN THE ASSOCIATION DUES

Some of the secretaries of county medical societies write us that there is yet considerable misunderstanding of the action of the Indiana State Medical Association in raising the dues for the year 1911. The matter has been thoroughly explained in The Journal on several occasions, and those who attended the Fort Wayne session must have become acquainted with the facts, as the question was thoroughly discussed before decisive action was taken. However, we are asked to publish again some information on the subject, and we willingly do so in the hope that this time it will result in making every member of the Association thoroughly understand the subject.

In the first place one of the principal reasons for increasing the dues was to raise a fund for medical defense of members of the Association in malpractice suits. This feature is one that has proved successful in many other state medical associations and there is no reason why it should not be equally as successful in Indiana. Investigation shows that medical defense in several states has cost the members not to exceed one dollar per year, and it is thought that the Indiana State Medical Association, with the increased dues, can now adopt such plans as will guarantee to every deserving member not only assistance in defense of malpractice suits, but the moral influence which goes with the defense originating among the confrères of the member who has or is threatened with a suit.

In the second place an increase in the dues became necessary in order to meet the increased expenses of the operation of the Association. These increased expenses, while not great, have arisen in consequence of the growth of the Association and the added responsibilities due to a broadening of its influence. These increased expenses include the actual expenses of the Council which in reality is almost entirely responsible for the increased growth of the Association, an increase in the salary of the secretary, thoroughly justified owing to the amount of time and energy required of him, the increased printing bills for stationery, records, etc., and the appropriations for various committees. In this connection it may be stated that even these additional expenses could be paid out of the income of the Association if the income was increased by the profits from commercial exhibits as in former years. Fortunately for the good name of the Association the commercial exhibits at the annual sessions have been restricted to such an extent that the manufacturers of nostrums and questionable proprietary remedies, who formerly aided in increasing the income of the Association through exhibition fees paid, now find it impossible to secure the privileges they once enjoyed. This money loss can well be afforded in an effort to raise the moral and ethical standard of the Association.

For the benefit of the few who have thought that the Association dues were raised to meet the increasing expenses of publishing The Journal, we desire to repeat, what we have said several times during the last few months, that *not one cent of the increase in the Association dues goes to* The Journal, *either to pay deficiencies of the past or future.* The Journal receives 75 cents as a subscription from the dues of every member of the Association, and has been published and will continue in the future to be published on that basis. The little that the editors receive for their services comes out of The Journal income and not out of the general funds of the Association. Even what they do receive must come through careful management of the finances of The Journal, and, as has been shown by the financial statements published, the honorarium received is small compensation for the services rendered.

Finally, we desire to remind the members that the Indiana State Medical Association is about

the only state medical society which up to this year has had dues as low as one dollar per year. That it has been maintained on such a small income is a tribute to good management, and to the further fact that until recently the Association has been backward in adopting many features which broaden the sphere of usefulness of the Association and add to the returns given the members. The establishment of a journal by the Association was a distinct step in advance, and fortunately it required no increase in the expenses of the Association, but really a decrease, as the proceedings of the Association are now published for less than they could be in the old way. The reorganization was another step in advance, and it brought about a doubling of the membership in the Association. It entailed an increased expense which was well warranted but which eventually resulted in a slight deficit requiring some provision to meet. The adoption of the medical defense feature is perhaps the most important step in advance which the Association has taken, and it alone is worth more to every member than the cost of membership in the Association.

For all the benefits afforded by membership in the Association the small sum of two dollars per year is required. Surely the doctor who will object to the dues has a poor appreciation of values.

EDITORIAL NOTES

Owing to the tardiness with which county secretaries have sent in their reports, it was impossible for Secretary Combs to get the membership list for 1911 to us until so late that our printers have been unable to place it in type for the February number. The list, together with additions for February, will be published in our March number.

"There is nothing in the constitution especially about hogs or cattle or horses; and if out of the public treasury at Washington we can establish a department for that purpose, it does not seem to be a long step or a stretch of logic to say that we have the power to spend the money in a bureau of research to tell how we can develop good men and good women."—President Taft.

"Every child has the inalienable right to be born free from disease, free from deformity and with pure blood. Every child has the inalienable right to be loved; to have its individuality respected; to be trained wisely in mind, body and soul; to be protected from disease, from evil influences and evil persons; and to have a fair chance in life. In a word, to be brought up in the fear and admonition of the Lord."—*The Indiana Child Creed.*

In our department devoted to news notes in this number of The Journal we publish an item concerning the ninety-fifth birthday of Dr. William H. Wishard of Indianapolis, the only living survivor of those who organized the Indiana State Medical Association in 1849. At the ripe age of 95 Dr. Wishard is hale and hearty and his mentality has lost but little vigor with the passing of more years than is usually allotted to man. Governor Marshall has paid a deserving tribute in saying of him, "His has been a life filled full of good works, kindly thoughts and generous impulses."

Dr. Frank Broughton, the genial president of the DeKalb County Medical Society, writes us that the meetings of his society are more successful than they have been in several previous years. The members have contributed liberally to the programs, and live subjects have been discussed in a manner that has reflected credit on the society. The attendance has already increased since the programs have been better.

This report bears out what we have always contended, and that is if a society will only furnish good programs at regular intervals there is no trouble in getting attendance and in stimulating interest and cooperation from all members. If the members find that they get something when they attend a society meeting they are willing and anxious to attend regularly. If attendance is profitless it is easy to get out of the habit of going, and soon the society exists only in name.

In this number of The Journal we publish the letter entitled "In Memoriam" which was sent to all those who formerly constituted the White County Medical Society. It is a sad commentary on the aims and ambitions of the medical men of White County, and we feel justified in saying that there is something radically wrong when a number of medical gentlemen who formerly maintained a medical society will permit that society to suffer ignoble death. Here is work for the evangelist and we suggest that some

interested person make an effort to either reorganize the White County Medical Society or induce the eligible doctors of White County to join a medical society in an adjoining county. It does not seem possible that all of the doctors in that county are willing to relinquish membership in the Indiana State and American Medical Associations even though they cannot keep up a local society.

"The Government will give the farmer expert advice, in bulletins and otherwise, to prevent disease among his hogs; or, if his hogs actually become sick, an expert will be sent to cure them. But the Government has no bulletins, and no experts to send the farmer to protect himself or his wife and children from the common preventable diseases.

"If Congress can guard the hog and his family against disease, why can it not do as much for the farmer and his family?

"The Government will make vigorous efforts to protect him to-day from yellow fever and Asiatic cholera, both remote possibilities, and permit him to die to-morrow of another easily preventable disease without the slightest effort to save him.

"The hog is fortunate in being an animal of commerce. If it were not, the waste of hog life would doubtless exceed that of human life."—*American Life-Waste.* Provident Savings Life Assurance Society.

A few members of the Indiana State Medical Association are inquiring as to the increase in the dues and the necessity therefor. This matter has been repeatedly explained in The Journal, and was thoroughly discussed at the Fort Wayne session before action was taken. The House of Delegates unanimously voted to raise the dues to two dollars, and all of the members of the Association ought to appreciate the fact that the dues would not be raised if there was not good reason for it, and doctors ought to have enough confidence in one another to be satisfied with the unanimous action of their chosen representatives. Even at two dollars the dues are lower than the dues of many other state medical associations, and the increase has been necessary solely for the purpose of meeting a small deficit brought about by increased expenses of the State Association, and for the further purpose of furnishing medical defense to the members in malpractice suits. Not one cent of the increase goes for the support of The Journal or to make up any deficit in The Journal, past, present or future, as some seem to have supposed.

Governor Marshall has shown himself to be a real friend of medical progress, and in his message to the Indiana legislature as also in his conversation with leading members of the legislature he has repeatedly advocated the adoption of such measures as will promote the public health and educational matters pertaining to public health. He has repeatedly said: "My notion of real conservation is the prevention of contagious and communicable diseases."

He has favored a liberal appropriation for the use of the State Board of Health and has especially advocated an appropriation to be used exclusively in studying and preventing the spread of such contagious diseases as poliomyelitis. He is also reported as having said: "Give more assistance to Dr. Hurty in his valuable work and he will make a showing that will be a saving of lives and money to the people of the state."

There is no reason why the governor's recommendation shall not be followed, for it can be clearly demonstrated that every dollar spent by the state in furthering the work of the State Board of Health is returned many times in the saving of health, life and money.

Indianapolis is to have a new city hospital costing over a million dollars. It already has a city hospital, maintained at the expense of the city, but the institution is overcrowded and sadly in need of larger and better accommodations. Many smaller cities in Indiana also need hospitals which should be maintained at municipal expense, but they are unable to obtain them. Fort Wayne, the third largest city in the state, while boasting of four hospitals, has no hospital which obtains a cent of support from the city. Every city of any considerable size ought to have a municipal hospital, maintained by a general tax on the people. The expense of caring for the sick and disabled poor should not fall on private hospitals that can ill afford the expense. Most private hospitals face a deficit at the end of each year, and this deficit is occasioned by taking care of the sick and disabled poor that ought to be taken care of at municipal expense. The burden is an unjust one and Indianapolis is to be congratulated on the prospects of having a municipal hospital that is ample for the city's needs in caring for those who should be cared for at public expense.

"Every health officer is made a food inspector by both the pure food and sanitary laws, and is given the same powers in the enforcement of his

duties as are held by the regular inspectors of the food department of the State Board of Health. He has power at all times to enter any building or room which is occupied or used for the production, storage or sale of food, and to inspect the premises and all utensils and machinery used therein. If on inspection he finds that any establishment, employer, operator, driver or any other person connected with the business is violating any of the provisions of the acts, or that food is being prepared or distributed in such a way as to injure its character or quality he shall furnish evidence of the violation of the law to the prosecuting attorney of the county. If in his opinion it seems advisable not to prosecute for a first offense the inspector may under the law report the insanitary conditions and violations to the state food and drug commissioner, who will issue an order to the person in authority at the establishment, to abate the condition and make such improvements as may be necessary.

"While many health officers have made good use of the food law in regulating the food supply of their community, the good they may do under the sanitary law is as yet appreciated by but few officers."—*Monthly Bulletin Indiana State Board of Health.*

Notice to County Secretaries.—1. It will require an extra effort this year to prevent lapses and to keep the membership list as large as it was last year. Collect all remaining dues *at once* to avoid having your county shine in the delinquent column in next month's Journal.

2. The Council warns every society that its delegate will not be recognized at the Indianapolis meeting unless it has a charter. The number of your charter must appear on the credentials. The records of this office show that all but the following county societies have been issued charters: Adams, Fayette, Hancock, Henry, Parke, Pike, Union, Wayne and Wells. The secretaries of these societies are requested to send for application blanks. If your charter is lost a properly signed request will entitle you to a duplicate.

3. Put the secretary of the State Association on your mailing list for all printed programs, notices, etc.

4. Read elsewhere in this number the explanation concerning the raise in dues. Go over this carefully with any complaining members until your county is unanimously enthusiastic about the Indiana State Medical Association. Much depends on your attitude and what you say.

Charles N. Combs, Secretary.

Several of the county medical societies have elected new secretaries for 1911, and already the effect has been shown in more activity in getting up programs and securing attendance at meetings. We have often said that the life of the county medical society depends on the secretary, and the truth of this assertion has been evidenced in the history of all the live and progressive medical societies of the state. It is not an easy job to act as secretary of any society providing the duties of the office are carefully performed. One must really be interested in the work in order to accomplish the best results, and it is unfortunate that in every county society there is not some man who will accept and creditably perform the duties of such a position.

We wish to urge the newly elected secretaries to put forth their best efforts toward the work that has been assigned them. It requires persistence, patience, tact and enterprise to be a successful secretary, and it is the successful secretaries who build up and keep active the most progressive medical societies. But county secretaries require encouragement, and we urge on all those physicians who appreciate the value of a good society to give all possible assistance to secretaries in their efforts to do creditable work. Sometimes one man alone will accomplish wonders in organization work, but he will accomplish more if he has the assistance of a few energetic confrères.

The Indiana University School of Medicine is to have new and modern hospital facilities, due to the generosity of Dr. Robert W. Long, who has donated $200,000 for the establishment of such an institution, the only conditions exacted being that the hospital shall be maintained at the expense of the state. This is pleasing news to all those who are interested in the advancement of the educational institutions of the state, and it is hoped that the gift of Dr. Long will encourage other wealthy people to make similar donations for similar purposes. It is now conceded that all successful educational institutions must not only be heavily endowed but supplied with ample means for enlarging their spheres of usefulness. The state should supply the necessary funds for maintaining state institutions, but the customary economy of legislatures will prevent the appropriation of much-needed sums for early development and growth of such institutions as the medical department of the university where already there is a crying demand for new buildings and equipment for laboratory work and other phases of practical teaching. It is impossible to make the medical department of the university too

good, and there is every reason why we should aim to make it the equal of anything in the country. It is possible to eventually make the institution second to none if we can have a few more bequests like that of Dr. Long, and the state will come forward with reasonable aid in maintaining the departments created.

A few months ago *Collier's Weekly* exposed some of the questionable practices of C. W. Post, of Postum Cereal and Grape Nuts fame. In return Mr. Post published in advertisements a statement which intimated that the attack on him and his products came about through his failure to advertise in *Collier's Weekly*. In retaliation *Collier's Weekly* sued Mr. Post for libel, and later secured a judgment for $50,000, reported as the largest libel judgment ever rendered. During the trial some very interesting as well as damaging testimony against Post was brought out, which later has resulted in some very forceful editorials in *Collier's Weekly* concerning what has been termed the deception and trickery practiced by Mr. Post in furthering the sale of his products. Of particular interest to physicians is the exposure of the fake testimonials from physicians concerning the reputed value of the Postum products in the treatment of disease. But the peculiar feature of the proceedings is the fact that the Associated Press did not report the news concerning the trial or the judgment rendered, and few if any newspapers of the country published a word on the subject. *Collier's* explains this by saying that the millions spent in advertising the Postum products was sufficient to throttle the press of the country, and in return for the silence on the question of the unprecedented judgment rendered, general knowledge of which would have very greatly lessened the sale of Postum products, Mr. Post has very generously increased his newspaper advertising. So much for the "power of the press," and so much as evidence to prove that for the most part the press can be and often is willingly made the tool of those who profit by deception and trickery and at the expense of the public. However, it is comforting to know that *Collier's Weekly* is among the very few periodicals that fearlessly publish the truth no matter whom it hurts, and in efforts to expose iniquity, political, financial and social relations are given no consideration.

We have received one or two letters from doctors saying that they will not pay the two dollar dues to the State Association, as they do not think the increase necessary, and that if membership cannot be given for one dollar they prefer to drop the membership.

Certainly doctors are a queer lot of people, and have a very peculiar view of values. A doctor will squander two dollars on a handful of cigars or some other things giving equally as little benefit and think nothing of it, or he will pay anywhere from five to ten dollars as dues to lodges, the meetings of which he never attends, but when it comes to paying two dollars for a year's membership in a state medical association, for which he receives benefits which cannot be measured by a standard of dollars and cents, he throws up his hands and emphatically declares that he does not propose to stand such imposition.

We are inclined to believe that the whole trouble arises through a lack of confidence in one another. The fact that the Indiana State Medical Association is composed entirely of doctors and managed in the interests of doctors is sufficient to make some doctors antagonize it. If the same association were incorporated by a company of business men and run by them as a profit-making concern, some of the objecting medical men would fall over themselves in an effort to keep up membership in the association at whatever cost, and go out bragging of the immense returns to be obtained through membership.

The Indiana State Medical Association is like a lodge or any other organization which requires funds to meet current expenses and carry on the work of affording its members all possible benefits. For the two dollars paid, membership is given, which entitles the owner to the privilege of participating in the programs at the annual session of the Association, to receive The Journal regularly for the fiscal year, and to share in the benefits derived from medical defense in malpractice suits. It also makes the member eligible to membership in the American Medical Association. Certainly the members of the Indiana State Medical Association are securing enough for their money, and if any member thinks that he is not getting enough for his two dollars he is privileged to relinquish his title to all of the many benefits that are afforded, and we really believe that the Association will be better off without him as he is bound to be a disturber.

CORRESPONDENCE

THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Terre Haute, Ind., Feb. 1, 1911.

To the Editor: Why not have some action from that very important committee of the Indiana State Medical Association, the Committee on Public Policy and Legislation, which seemingly exists only on paper in the list of committees printed by The Journal?

The State Medical Association has lost, or rather never has had, the support of the Public Policy and Legislation Committee in each county society. It has tried to pass laws by "log rolling" methods, and has never consulted the county societies in these matters. In fact most medical measures have been fathered by some individual in the city of Indianapolis, and many times to the disgust of a majority of the members of the medical profession. The usual procedure is for someone in Indianapolis to telephone or write to medical men over the state asking them to write or telegraph their representatives in regard to certain measures that are before or will come before the legislature for action. These measures are generally up to their last vote at the time, and it is a shame to say that medical men often do write their representatives to support these measures when little or nothing is known about the measures.

It does not take long experience in politics for men in the legislature to learn what influence should be considered. The legislator receives letters and telegrams with a smile, but votes as he pleases, for which he is to be complimented. Legislators are always ready to listen to advice on medical legislation, and they are not hard to convince if you have argument. But they must make good to their districts. This means that the manner to reach these men is through the districts, and the local medical society in each district should make its wants known as far as medical legislation is concerned. It does not suffice for one or two men to send in their views independently, for just as likely as not some other medical men have sent in opposing views. The opinion should bear the stamp of approval of a majority and then it will have some weight. How would you vote if you were to ask several medical men of your district about a bill and find as many different opinions?

The Committee on Public Policy and Legislation is of such importance that there should be one member from each councilor district, and two or three from Indianapolis. The committee should seek assistance by sending to each county society a copy of each legislative measure that has medical interest, together with the committee's recommendations. Then with the influence of the county society behind them the committee can take up the proposed measures with those who represent the various districts. This will bring results, and at the same time we can retain our professional dignity.

We have degraded ourselves by using the same method in securing legislation as is used by corporations and others who support certain measures for personal gain. It is our duty to divorce ourselves from the so-called "lobby" method. We support legislation which is for the good of the laity, and many times its passage means loss of money to each of us. This should entitle us to more than ordinary consideration.

There are a great many things to consider in connection with medical measures before they receive the endorsement of the county society, not the least of which are the economic features. The proposed legislation may cause monetary loss to some persons. The county society in such case must convert its members, and send them out to create the necesssary popular opinion. There is always a fight when a question of dollars arises, and the popular opinion which can be created by the members of a society means success. Without this failure is certain.

Finally, poor medical measures are the result of a poor committee on public policy and legislation, for the committee should frame those that are needed. With this committee active, it would mean death to legislation that did not have their sanction.

F. H. Jett, M.D.

THE WORK OF THE STATE BOARD OF MEDICAL REGISTRATION AND EXAMINATION

To the Editor:—In The Journal of December 15, appears a well written paper by Dr. W. T. Gott, secretary of the Indiana State Board of Medical Registration and Examination, dealing with certain phases of medical law enforcement that should be given special attention.

Many good men in Indiana fail to appreciate the value of the medical practice act. The law is imperfect, and yet, it is good: one of the best laws of the kind in America. It was the best at the time of its enactment that could be obtained, and has been amended and made better. At the time of its enactment there were hundreds of

men poorly equipped to practice medicine in the state.

Imperfect as was the law in the beginning, a large number—about four hundred—were compelled to quit the practice during the first year of the law's existence, because they could not meet its standard.

Under the law as it now stands, and for the last several years, very few incapable men have been admitted to practice. Possibly a few slip through, but the number is comparatively small. A few may be practicing in the state without a license, and some fraudulent advertisers are deceiving the people, whose license ought to be revoked. In prosecution for practicing without license, the law makes it the duty of the prosecuting attorney to prosecute, and it is the duty of the people and the profession to inform him and furnish the facts in each county, the same as in other violations of law. Some seem to think that it is the duty of the State Board to run about over the state and prosecute offenders. This is impossible. The authorities in *each county* are the people to enforce the law against all violations in that county. The medical law is no exception, and its violation comes under the same constitutional and statute control as other crimes and misdemeanors.

In matters of revocation of license the case is somewhat different. The board is authorized to revoke the license of one guilty of gross immorality, fraud, or for the drug or liquor habit. In *revocation* cases the board sits as a court, and of course cannot in any sense act as prosecutor. The complaint must come from those who know the facts, and who can furnish the evidence.

If each county medical society would do as some are doing—get busy and take up each case of violation with the prosecuting attorney, or furnish the evidence to the grand jury—very soon the medical law would be the best enforced of any law in the state; even as it is the medical act is better obeyed than any law of which I have knowledge. Medical men are law-abiding as a rule.

There is a function of the state medical board of far more importance than the prosecution of violators of the law, or of revocation of license, or even the examination of applicants for license to practice medicine; and in the performance of this function I believe I can safely say that the Indiana board has not been excelled by the board of any state in the Union. I refer to the advancement of the standard of medical education in the state. In this regard, but one other state in the Union has kept pace with Indiana. The much boasted educational standard of the east is now trailing far behind Indiana. The man who says that the Indiana board is doing nothing, is not informed. To the young man who obtains his medical education in Indiana now, or who passes the Indiana state board, under present standards, every state in the Union takes off its hat. He can go anywhere unchallenged that any doctor in America can go. These are facts of which every physician in the state ought to be proud.

From the worst plague spot of quackery and low-grade medical standards on the continent, Indiana, in the last fourteen years, has forged to the front, and now takes first place. If any doubting Thomas questions this let him consult the reports of the Council on Medical Education of the American Medical Association, or the report of Mr. Flexner of the Carnegie Foundation for the Advancement of Teaching. It is freely admitted by the most critical, that Indiana is now in the lead.

To the Indiana board belongs the credit more than to any other for establishing interstate reciprocity in medical licensure. The Indiana Board wrote the constitution and by-laws of the American Confederation of Reciprocating Boards, and wrote out in detail the three essential *conditions of reciprocity*—called the first meeting at Chicago eight years ago where the organization was effected with three states in membership. Almost all the other states stood out and said it could not be done. It was done, and now there are but few states remaining out of the compact, so that any qualified man, in any of more than thirty states, can go to another state and practice without reexamination.

The Indiana board has accomplished a great work, and it ought to have done so. The board in this state has been working under one of the best laws of the kind in America, and has had the cooperation of the medical educators, and the best medical men of the state. I question very much if any state board in the United States has had better, and more faithful support from the profession and from the strong men of the profession, than the Indiana board. When the board has been perplexed over difficult problems that were demanding solution, or has made a mistake, as it has done, the best men of the state have extended friendly counsel, and this has been of great service.

Indiana to-day presents to the world as fine a body of medical men as any state in the Union. All that is necessary is to keep an even keel, work together in harmony and all will be well.

W. A. Spurgeon.

DEATHS

Dr. George W. Buckner died at the home of his brother, north of Montpelier, January 31, aged 48.

Dr. S. B. Junkin died at his home in North Webster, January 10, at the age of 84 years. Dr. Junkin had practiced medicine in North Webster for thirty years.

Dr. O. E. Rea died at his home in Rochester, Jan. 7, 1911, following an attack of appendicitis, aged 67. Dr. Rea was born in 1843. He was a member of the Indiana State Medical Association.

Dr. E. H. Botts, of Zanesville, died at his home January 10, two hours after he was stricken with paralysis. Dr. Botts was born in 1858, and graduated from the Fort Wayne Medical College in 1893.

Dr. W. S. Leiter, of Claypool, while temporarily unbalanced, committed suicide by hanging, January 12. About two months ago he suffered a mental breakdown, and went to Fort Wayne for treatment, but later returned home. He was a member of the Kosciusko County Medical Society.

Dr. Maurice G. Moore died at his home in Vincennes, January 26, from gastric hemorrhage. Dr. Moore was born in Vincennes, Dec. 18, 1871, and at an early age entered the Vincennes University, graduating in 1888. Two years later he graduated from Indiana University, and took up the study of medicine in Jefferson Medical College, Philadelphia, graduating in 1894. Dr. Moore was ex-vice-president of the Indiana State Medical Association, and lecturer on Surgery in the Indiana University School of Medicine. He was a member of the State and American Medical Associations.

Dr. Jacob Coble died of heart trouble at his home in Spencer, Jan. 4, 1911. He had practiced medicine in that part of the state for over forty years. Dr. Coble was surgeon for the Pennsylvania Railroad Company, and a member of the board of pension examiners for his district. Dr. Coble was born in Carroll County, Ohio, in 1844, and enlisted in Company D of the Eighth Ohio Infantry in the War of the Rebellion as a drummer boy when 17 years old. He entered Rush Medical College at the close of the war, coming to Spencer on his graduation. He was a member of the Owen County Medical Society.

Dr. Harrie Moellering was struck by a train and instantly killed near Goshen, Dec. 29, 1910. Dr. Moellering was born in Fort Wayne, Aug. 22, 1884. He was educated in the schools of Fort Wayne, with one year at Purdue and one in the high school of Ann Arbor. At the latter place he entered on the study of his chosen profession, spending three years in the Ann Arbor College of Medicine. He later entered the Toledo College of Medicine, graduating in 1909. After some months of successful practice in Lima, he was forced through illness to suspend practice. In the spring of 1910 he submitted to an operation which afforded him relief. Following convalescence he took up practice in Goshen in August, continuing there until his death.

NEWS, NOTES AND COMMENTS

The Indiana legislature is about to adjourn. Let us rejoice.

Dr. Henry W. Shirley, Shoals, who has been quite ill with a dilated heart, is improving slowly.

For particulars concerning practice for sale, no opposition, see commercial announcements in the advertising pages.

Oxyoline cabinet, medical library and Bausch & Lomb microscope for sale. See commercial announcements in the advertising pages.

A physician's 36 H.-P. roadster is offered for sale at a greatly reduced price. For particulars see commercial announcements in the advertising pages.

Anyone who is contemplating the purchase of a Nelson static machine will be interested in the one described in our Commercial Announcements in the advertising pages.

Dr. John B. Murphy of Chicago, president of the American Medical Association, gave a special clinic at the New York Post-Graduate Medical School, January 6, on "Bone and Joint Surgery."

It should be generally known that any reputable physician in Indiana may obtain membership in some county medical society. If there is no society in the county in which the physician lives, application should be made to the society in an adjoining county.

The Council on Pharmacy and Chemistry of the A. M. A. has reconsidered the acceptance of the following, and voted that they be omitted from New and Nonofficial Remedies:

Trypsogen.—G. W. Carnrick Co.
Erpiol.—Wm. S. Merrell Chemical Co.

The Local Council of Women of Indianapolis propose to introduce in the legislature a bill providing for drink cures in connection with the workhouse and other institutions with the idea that the men sent to those places because of drunkenness may be cured of the habit or disease before leaving.

The Indianapolis Medical Society is making a fight before the Board of County Commissioners for a witness fee of $3 in insanity inquest cases. The law permits the payment of $3, but in Marion County the fee was cut to $2 by the ruling of a former county attorney, and the $2 fee has continued ever since.

Look up your county medical society charters. In this number of The Journal we publish a list of the charters issued by the State Medical Association. If any of the charters that were issued have been lost or destroyed duplicates may be obtained by making application in due form. Secretary Combs will furnish blank applications.

Indiana State Medical Association dues become delinquent on February 1. The mailing list of The Journal for 1910, with the addition of the names of new members of the Association who have paid dues for 1911, has been used for this number, but the March number will be sent to those only whose dues and whose subscription to The Journal for the current year have been paid.

Following the biting of two small boys in Lafayette recently by a small dog, the brain of the dog was found by Dr. Severance Burrage of Purdue University to show unmistakable evidence of rabies. The children were promptly given the Pasteur treatment, and no serious results are apprehended. A committee to urge a more rigid enforcement of the muzzling of dogs allowed to run at large, has been appointed.

The Indianapolis Medical Society recently adopted resolutions endorsing the bill before the legislature, which, if passed, will give the City Board of Health power to levy a special tax for hospital purposes. It was the consensus of opinion that the present city hospital is hardly decent for Indianapolis. There was no criticism of the hospital management or the Board of Health, but only of conditions which make it impossible to have a better institution.

Because Representative Wells of Scott County, does not like the Secretary of the State Board of Health, he has intimated his intention of voting against any bill which is advocated by or approved by Dr. Hurty. Surely this is wreaking vengeance to the limit, and the good people of Indiana have to suffer from the unfair and ridiculous action of such a man whose vote may perhaps have its influence in adding to or retracting from the health of the state.

Dr. H. B. Leavitt, the recently elected superintendent of the new State Tuberculosis Hospital, has returned from a visit to numerous hospitals of the character of that established by Indiana, and states that the Indiana institution is superior to many others in many ways. One of the essential points of advantage is the cottage plan as followed in this state and the connection of the various cottages by long corridors. It is expected that the hospital will be opened about March 1.

The State Board of Health and Railroad Commission has prepared a bill providing for better sanitation and ventilation of passenger cars and railroad stations. The bill will be introduced at the present session of the legislature, but strong opposition to the measure is expected from the railroad, interurban and street car companies on account of the expense which its passage would entail on them. The question of health for the people does not interest these public service corporations.

Dr. G. W. H. Kemper of Muncie has yielded to the advice of friends and decided to revise and publish in book form the series of articles on "The Medical History of Indiana" which have been appearing in The Journal during the past three years. The book will come from press about May 15. It will be illustrated with the pictures of many deceased physicians, contain a comprehensive index, and between 450 and 500 pages. The price, bound in cloth, will be $2.50, and orders may be placed with Dr. Kemper.

The following list of officers have been elected by the St. Joseph County Medical Society for 1911: President, Chas. S. Bosenbury; vice-president, W. L. Owen; treasurer, J. W. Hill; secretary, R. C. Shanklin; councilors, E. J. Lent and W. H. Baker, one year; W. A. Hager and C. C. Terry, two years; Chas. S. Stoltz and S. A. Clark, three years; trustees, C. M. Butterworth, S. L. Kilmer, J. B. Berteling; censors, F. P. Eastman, H. M. Miller, R. L. Sensenich; committee on necrology, W. A. Hager, H. F. Mitchell; committee on program, H. F. Mitchell, J. B. Berteling, C. E. Varier.

The most important medical news for Indiana for January was the bequest of Dr. and Mrs. R. W. Long, of $200,000 for the establishment of a State Hospital in connection with the Indiana University School of Medicine. Governor Marshall heartily endorsed a bill receiving this gift. The condition of the gift is that the hospital be maintained at the expense of the state. A bill has passed the House and Senate accepting this gift and designating Military Park, Indianapolis, as the site for the new hospital. Dr. and Mrs. Long may increase their gift to one-half million, and already five prominent physicians have pledged $10,000 each for the building of five different wards.

The Indiana Sanitary and Water Supply Association held its fourth annual convention in Indianapolis on February 9 and 10. The program embraced addresses and papers on almost every question which now affects water sanitation in the state of Indiana. Water and sewage systems of many American cities were discussed and model plants and those which have failed to bring satisfactory results were praised and condemned according to their facilities to give the public service. The convention was addressed by Governor Marshall and the attendance represented expert engineers, chemists, and students of sewage and water supply questions. Dr. H. E. Barnard, of the State Board of Health, is president of the organization.

A decision of far-reaching importance to physicians everywhere was rendered in the circuit court at Anderson, Ind., last week. Dr. A. W. Tobias was found guilty of oppressive garnishment, said oppressive garnishment consisting of the offense of placing an account of ten dollars with a collection agency in Ohio County, West Virginia, which at once proceeded to levy on the plaintiff's wages. It appears that the physicians of the state have been so busy ministering to the afflicted that they quite overlooked an innocent appearing bill before the recent legislature which made it an offense against the majesty of the sovereign state of Indiana to place accounts against residents of Indiana in the hands of persons outside of the borders of Hoosierdom. The decision is one of great importance, since it will in all probability govern other cases of a similar character.—*Exchange.*

Senator Stotsenburg has introduced a bill in the Indiana legislature which will materially alter the standard now maintained by the Indiana State Board of Medical Registration and Examination concerning the requirements for admission to practice medicine in Indiana. At present applicants are required to pass an examination and to show that they have had satisfactory preliminary education as described by the board. It is reported that Senator Stotsenburg wishes to force the board to admit to the practice of medicine a young applicant who has not complied with all of the requirements, and rather than ask the applicant to comply with the educational requirements the legislature is asked to pass a bill which will so lower the standard of requirements that the applicant can come in without examination or without complying with the present requirements of the board.

The Indianapolis Board of Health seeks to have a special health tax for the purpose of furthering public health measures and making it possible to construct a contagious disease hospital. Under the bill a tax of not less than 10 cents or more than 15 cents on each $100 of taxable property may be levied annually, for the pur-

pose of the health department, the exact amount of the tax between 10 and 15 cents to be fixed by the City Council. At present the health board of Indianapolis recives $138,000 annually, but the minimum tax of 10 cents would give it about $185,000 annually, according to the present valuation of taxable property. For several years the board has tried to obtain funds for a contagious disease hospital, but has not been successful. Under the present law it must depend wholly on the city council, and on the board of public works to let its contracts. The proposed law would permit it to supervise its own expenditures and its own contracts. If the Indianapolis city council approves the plan for enlarging the municipal hospital, which includes the erection of a contagious disease hospital, the bill authorizing a special health tax will not be pushed.

Indianapolis is to have a new city hospital, and if the proposed plans are carried out the institution will eventually cost over a million dollars and the work extend over a period of twelve to fifteen years. The Indianapolis Board of Health has decided to ask the City Council to immediately appropriate $110,000, which will be used in building the first unit of the hospital, and in succeeding years other units will be added until the institution is finally completed. Under the comprehensive plan there will be a contagious disease hospital, consisting of a separate administration building, costing $40,000, four units to cost $90,000 each, a service building to cost $16,000, and a laundry to cost $10,000. The units would be two-story buildings, 40x140 feet. The total cost of the contagious disease hospital would be $426,000. For the hospital proper the board plans a new administration building to cost $40,000, fourteen units costing $45,000 each, or $630,000, a nurses' home to cost $57,000, and the acquisition of one square of ground south of the present hospital ground, to cost $35,000. When the hospital is rebuilt under the comprehensive plan it will have a capacity of 1,600 beds and will meet the hospital needs of the city for fifty years in the future. If the Council allows the $110,000 necessary to meet the immediate needs, two units will be built at once. These will be three-story brick structures 40x100 feet, costing $45,000 each, and the $20,000 additional will be used in furnishing the buildings.

In Memoriam.—Sad to relate but you knew him well. The poor old White County Medical Society is dead.

It passed, quietly, away January 24, 1911, in Monticello, Ind., after having a varied career, prosperity and adversity, for many years past.

The immediate cause of death was asphyxiation, want of air—hot air.

It made many a struggle to maintain itself during the previous attacks of lung trouble yet its vitality was so sapped that even the combined efforts of the three attending physicians were of no avail.

Before passing into its last sleep, it called for you, as it has done on many occasions, before, but as you were not near to answer its pleadings and entreaties and render it aid, it made a few simple requests and asked that you be informed of them.

Its first request was, that should you, ever, hereafter, profess to be a member of a county medical society, it would cause you to reflect with pride, your faithful attendance to your past and buried love and it thanks you for the many papers, notes and cards of regret (Not able to attend) that you have brought before the society.

Its next request, being, that you provide for yourself, relative to state and national membership, as it feels, that in passing from life unto death for your attendance and support, it had filled its mission here on earth.

Its last request, being, that its records, books, notes and moneys be retained by any one who would be so kind as to keep and foster them untrammeled by the hands of the vicious.

Please file with other obituaries.

Crepe Jan. 31, 1911.

Dr. William M. Reser, secretary of the Tippecanoe County Medical Society, has been collecting some statistics concerning the medical fraternity in the county for the benefit of the society. He has found that the oldest licensed physician in the county is Dr. George W. Kirkpatrick, aged 75, and that the oldest practicing physician is Dr. Samuel S. Washburn, aged 71. The youngest practicing physician is Dr. Emil Ruschle, aged 26 years. The fraternity lost three members by death in 1910, viz., Josephine Mitchell, A. W. Shoup and S. R. Fox. Four moved out of the county in 1910, viz., George W. Lee, Erasmus S. Baker, W. W. Worster and Aldine E. Morgan. His research has revealed the following additional facts: Licensed physicians in county, ninety; licensed physicians in active practice in the county, eighty-one; licensed physicians in Lafayette and West Lafayette, sixty-one; licensed physicians in active practice in Lafayette and West Lafayette, fifty-five; licensed

physicians, members of the county medical society, forty-eight; licensed physicians of the regular school in active practice in the county, seventy; licensed physicians of the homeopathic school in active practice in the county, four; licensed physicians of the eclectic school in active practice in the county, one; licensed physicians of the physio-medical school in active practice in the county, two; practicing physicians past 60 years of age, eleven; practicing physicians in the county between 50 and 60 years of age, nineteen; practicing physicians in the county between 40 and 50 years of age, eighteen; practicing physicians in county between 30 and 40 years of age, twenty-six; licensed physicians in the county who are non-graduates, six.

WHY THE MEDICAL PROFESSION OPPOSES "PATENT" MEDICINES

The medical profession is committed to the prevention of disease. Witnessed by the magnificent results obtained by sanitation.

To anything tending to impair the health of the people we are opposed.

So-called patent medicines do, as is witnessed by their classification:

1. The "Bracers": Those that contain variable quantities of alcohol, e. g., peruna, wine of cardui, the various bitters and sarsaparillas. Taken according to the directions accompanying the bottles, a person soon forgets his or her troubles just as the person under the influence of whisky straight. They are liable to create, and do create, the whisky habit, which is a disease.

2. The narcotics: Those that contain morphin, chloral, cocain and the like, as seen in the various soothing syrups, cough syrups, catarrh snuffs and diarrhea mixtures. In the last five weeks we have had in Lafayette two cases of poisoning due to patent cough syrups. Such preparations are liable to create, and do create, drug habits, which are diseases to be afterward cured, maybe. In this class may be put the headache remedies.

3. The patents used to prevent conception and to produce abortion. Many of the numerous complaints that women suffer with in these days are due to efforts made by the use of these medicines to thwart the true course of Nature. To do either is to commit race murder. Life is destroyed in the latter instance. A crime is committed against the state and the expressed law of God: "Thou shalt not kill."

4. The drug habit "cures." The scavengers. They presume to cure the morphin habit, for example, by morphin. The last state of the victim is worse than the first. The habit is more firmly fixed.

5. The class embracing medicines advertised for the cure of constipation, for example. Troubles of such kind are better benefited otherwise.

6. The sure cures for incurable diseases like advanced consumption and advanced cancer. The vampires: because their proprietors wax rich off the very blood of their victims. The money spent in the false hope of getting cures could be better spent in developing rich blood to prolong the life of the victim instead.

7. The "easy cures" for private diseases. There is no royal road to the cure of gonorrhea and syphilis.

The patent medicine business is intended to make money and nothing else. Against it is the medical profession, altruistic, which if it discovers a remedy for disease or inverts an appliance, gives it to the world without the hope of reward, that disease may be cured or ameliorated. To do otherwise by patent or proprietorship, is to violate the honor of the profession. In the patent medicine business are those who have made their millions, literally. In the medical there is not a single millionaire.

When a physician is sick he calls another to treat him. The profession is twitted about that. But you never saw a barber cut his own hair. He gets another to cut it for him. A lawyer, administrator of a large estate, for example, calls another to advise him. What about the layman possessed of no skill to diagnose and treat disease? To paraphrase the expression of the lawyer: "He has a fool for a patient" who attempts to treat himself.

Earl Van Reed, President.
W. M. Reser, Secretary.

Statement endorsed by the Tippecanoe County Medical Association, Dec. 12, 1910.

The pupils in every district school in Wayne County received January 3, printed copies of the "Alphabetical Health Rules" as written by Dr. C. I. Stotelmeyer, trustee of Jefferson township. At a recent meeting of the trustees of the county, Dr. Stotelmeyer read his new alphabet, and it was decided the idea had special merit in bringing to the children in an interesting way some of the recognized guides to health. The trustees ordered that copies be printed and placed in the hands of all district school pupils. The action had the sanction of Charles Williams, county superintendent. Dr. Stotelmeyer's alphabet follows:

A is for Anybody who can help prevent consumption, a child just as well as a grown person.

B is for Breathing which you should learn to do deeply. Take deep breaths in fresh air often.

C is for Coughing, which you should never do in any one's face, nor should you sneeze in any one's face. Turn away your head and hold your hand before your mouth.

D is for Don't. Don't swap apple cores, candy, chewing gum, half-eaten food, whistles, bean blowers or anything you put in your mouth.

E is for Eating no fruit that has not been washed or peeled, or anything that is not clean.

F is for Fingers, which should not be put in the mouth, nor wet to turn the pages of a book.

G is for Giving good example to your fellow-pupils and playmates by being always neat and clean, just as much so at home as at school.

H is for Handkerchief, which should be used only to wipe your nose and not your slate, desk or shoes.

I is for Illness of other kinds besides consumption, which following these rules will help prevent, such as colds, measles, grip, diphtheria and pneumonia.

J is for Joints, where children have tuberculosis more often than in their lungs.

K is for Keeping your finger nails clean. A scratch from a finger nail may make a bad sore.

L is for Learning to love fresh air, and not for learning to smoke.

M is for Mouth, which is meant to put food and drink into, and not for pins and money, or anything not good to eat in it.

N is for Nose, which you should never pick nor wipe on your hand or sleeve.

O is for Outdoors, where you should stay just as much as you can. Always play outdoors unless the weather is too stormy.

P is for Pencils, which you should not wet in your mouth to make them write blacker.

Q is for Question, which you should ask the teacher if you don't understand all these rules.

R is for Roughness in play by which you may hurt yourself or your comrades. If you have cut yourself, have been hurt by others, or feel sick, don't fear to tell the teacher.

S for Spitting, which should never be done except in a spittoon, or a piece of cloth or handkerchief used for that purpose alone. Never spit on a slate, on the floor, the playground nor the sidewalk.

T is for Teeth, which you should clean with tooth brush and water after each meal, or when you get up in the morning and before you go to bed at night.

U is for Unkind which you should never be to a consumptive.

V is for Vessel, like drinking cups and glasses, which should not be used by one child after another without being washed in clean water each time.

W is for Washing your hands with soap and water before each meal, even if it is only lunch.

X is for X-rays, which sometimes help to discover consumption or other forms of tuberculosis.

Y is for You, who should never kiss anybody on the mouth, nor allow them to do so to you.

Z is for Zeal in carrying out these rules.—*Indianapolis News.*

Dr. William H. Wishard, 308 East Fifteenth Street, Indianapolis, celebrated his ninety-fifth birthday on Tuesday, January 17, and the occasion was one of unusual interest and pleasure. Dr. Wishard is in vigorous health and was able to entertain his friends who began calling shortly after breakfast and continued to drop in during the entire day until late in the evening. During the entire day and the evening letters and telegrams of congratulation were received from physicians and friends throughout Indiana and other states.

A little before 8 o'clock in the evening he went down to the meeting of the Indianapolis Medical Society of which he is an ex-president. Dr. Kimberlin, the president, requested him to preside at the meeting which he did with a good deal of vigor, putting motions and rendering decisions with apparent zest and pleasure. During the evening Dr. Theodore Potter presented the following resolution which was unanimously passed by a rising vote: *"Resolved,* That the Indianapolis Medical Society hereby expresses its pleasure in the presence of Dr. William H. Wishard at this meeting, congratulates him and his family on his ninety-fifth birthday, and in respect and affection wishes him continued health and happiness."

Dr. Wishard left the meeting between 9 and 10 o'clock and returned home to meet more than a score of friends who had dropped in during his absence and were awaiting his return. He did not retire until 11 o'clock when the last guest had left.

In responding to the resolution which had been introduced at the Indianapolis Medical Society earlier in the evening, Dr. Wishard said among other things that his great pleasure in attending the meeting on his ninety-fifth birthday and receiving so many courtesies and kind expressions from his friends was just a little tempered with sadness because of a lonely feeling he could not repress. "I am the last surviving member of those physicians who gathered in Indianapolis in 1849 to organize the Indiana State Medical Association, and I have been continuously a member of this organization since that date. I have also been a member of the Indianapolis Medical Society since my removal to this city thirty-five years ago, but I do not see before me this evening a single one of those who were in middle or advanced life at the time I united with this Society. It would be impossible this evening to sketch even a faint outline of the wonderful progress that has been made in medicine since the Indiana State Medical Association was organized sixty-two years ago. But most of all I am impressed by the marvelous development of our knowledge of pathology. It is the founda-

tion on which an understanding of medicine must rest. You, my friends, have been more than kind to me, and I can only say thank you. I am here by the courteous invitation of your president, who has asked me to preside. Perhaps my years may warrant my offering a few words of advice, particularly to the younger members. I would especially advise you to avoid doctors' quarrels. I remember many years ago a prominent physician not far from where I lived, who called a distinguished consultant in a difficult case.

DR. WILLIAM H. WISHARD
(Taken Since His 95th Birthday)

They were both prominent men, and both able men, at least both conceded this to be true. They differed radically as to the condition of the patient. One was positive that a certain thing was the matter, and the other thought it was something entirely different. They naturally failed to agree on a line of treatment. The patient died and the autopsy showed that they were both mistaken. Charitable consideration for each others' views is very important in this life. I would have you all be students also, and devote the very best effort you are capable of to your high and noble calling. Be considerate of each other. Carefully study your cases. Be industrious in your work. Be honest, Christian gentlemen, and last but not least, be virtuous."

On the day following Dr. Wishard's birthday the annual midwinter meeting of the Council of the Indiana State Medical Association occurred at the Columbia Club, Indianapolis, and the following resolutions introduced by Dr. G. W. H. Kemper of Muncie were unanimously passed:

"Whereas, Dr. William H. Wishard only yesterday, January 17, 1911, celebrated his 95th birthday, and inasmuch as Dr. Wishard was a member of our State Medical Convention in 1849, has been a member of the State Medical Society since 1850, and our State Medical Association since the change of name, and as he is the sole survivor of that band of noble physicians, eighty-four in number, who laid the foundation of our State Medical Association, and has always been loyal to our Association, ethical at all times, a valuable contributor to our medical literature of the State, and now at this advanced age is a type of the old and new physician, and his character is, and always has been so Christianlike and noble, therefore

"*Resolved*, That this Council now in session extends its kind wishes, love and congratulations to Dr. Wishard, and that we express the hope for his good health, comfort, peace and joy during the remainder of his natural life."

Among the many cordial letters received, the following from Governor Marshall is typical of the rest:

"My dear Dr. Wishard:

"Permit me to congratulate you on your arrival at your ninety-fifth birthday. I think you have found the scriptural promise to be true: 'With long life will I satisfy thee.' I do not know what I would give, because such things are not purchasable, to be assured at the end of my life, I could have as many people say of me as I hear them saying of you: 'His has been a life filled full of good works, kindly thoughts and generous impulses.'

"It is hardly necessary for me to express the hope, which I know will be the truth, that at eventide it may be light with you.

"Very truly yours,
"Thomas R. Marshall."

It may be of interest, and particularly to the officers of county medical societies, to know when and to whom charters have been issued by the Indiana State Medical Association. Accordingly we herewith publish such information. The list contains the number of the charter, the county

society to whom it was issued, the date of issuance and the names of officers who made the application for the charter. Any county society that has lost its charter will be able to obtain a duplicate, but no charter will be issued to a new society until the old charter has been surrendered. Any society that has never received a charter is entitled to one, and the same may be obtained by application in due form to the secretary of the State Association.

No. of Charter.	County.	When Issued.	Officers Making Application.
1.	Allen (Fort Wayne)	July 1, 1903	C. B. Stemen, Pres., Fort Wayne; E. E. Morgan, Sec., Fort Wayne.
	(This charter was surrendered, destroyed and reissued as No. 61 on March 21, 1904.)		
2.	St. Joseph	July 14, 1903	J. H. Cannon, Pres., South Bend; H. F. Mitchell, Sec., South Bend.
3.	Marion (Indianapolis)	July 14, 1903	W. E. Jeffries, Pres., Indianapolis; Theodore Potter, Sec., Indianapolis.
4.	Whitley	July 14, 1903	O. V. Schuman, Pres., Columbia City; F. G. Grisier, Sec., Columbia City.
5.	DeKalb	July 14, 1903	J. E. Showalter, Pres., Waterloo; W. W. Swarts, Sec., Auburn.
6.	Delaware	Aug. 13, 1903	C. W. Smith, Pres., Selma; U. G. Poland, Sec., Muncie.
7.	Madison	Aug. 13, 1903	J. M. Littler, Pres., Ingalls; O. E. McWilliams, Sec., Anderson.
8.	Bartholomew	Aug. 18, 1903	J. K. Hawes, Pres., Columbus; E. U. Wood, Sec., Columbus.
9.	Johnson	Aug. 18, 1903	L. L. Whitesides, Pres., Franklin; H. J. Hall, Sec., Franklin.
10.	Jackson	Aug. 18, 1903	J. M. Jenkins, Pres., Cortland; G. H. Kamman, Sec., Seymour.
11.	Jennings	Aug. 19, 1903	J. W. McClure, Pres., Butlerville; W. H. Stemm, Sec., North Vernon.
12.	Jay	Aug. 21, 1903	F. E. Moyer, Pres., Pennville; W. H. Walker, Sec., Portland.
13.	Montgomery	Sept. 5, 1903	O. H. Jones, Pres., Crawfordsville; T. J. Griffith, Sec., Crawfordsville.
14.	Jefferson	Sept. 12, 1903	W. A. McCoy, Pres., Madison; N. A. Kremer, Sec., Madison.
15.	Switzerland	Sept. 12, 1903	L. J. Woollen, Pres., Vevay; H. C. Rous, Sec., Vevay.
16.	Noble	Sept. 12, 1903	F. W. Black, Pres., Ligonier; N. J. Shook, Sec., Kendallville.
17.	Miami	Sept. 30, 1903	J. O. Ward, Pres., Peru; E. H. Andrews, Sec., Peru.
18.	Cass	Sept. 30, 1903	A. J. Herrmann, Pres., Logansport; G. D. Miller, Sec., Logansport.
19.	Fountain	Oct. 5, 1903	I. W. Mock, Pres., Covington; George Rowland, Sec., Covington.
20.	Clinton	Oct. 5, 1903	W. J. Fernald, Pres., Frankfort; J. E. Robison, Sec., Geetingsville.
21.	Dearborn	Oct. 5, 1903	O. S. Jaquith, Pres., Lawrenceburg; F. M. Mueller, Sec., Lawrenceburg.
22.	Rush	Oct. 17, 1903	D. D. Van Osdol, Pres., Rushville; J. C. Sexton, Sec., Rushville.
23.	Tippecanoe	Oct. 17, 1903	M. M. Lairy, Pres., Lafayette; A. M. McMahan, Sec., Lafayette.
24.	Elkhart	Oct. 28, 1903	J. C. Fleming, Pres., Elkhart; A. C. Yoder, Sec., Goshen.
25.	Morgan	Nov. 4, 1903	A. S. Tilford, Pres., Martinsville; W. J. Sandy, Sec., Martinsville.
26.	Starke	Nov. 9, 1903	L. D. Glazebrook, Pres., Knox; S. I. Brown, Sec., Knox.
27.	Vigo	Nov. 14, 1903	J. W. Brunker, Pres., Riley; M. R. Combs, Sec., Terre Haute.
28.	Franklin	Nov. 14, 1903	I. O. Allen, Pres., Metamora; Calvin Carter, Sec., Brookville.
29.	Clay	Nov. 14, 1903	G. M. Pell, Pres., Carbon; G. W. Finley, Sec., Brazil.
30.	Porter	Nov. 20, 1903	R. D. Blount, Pres., Valparaiso; H. M. Evans, Sec., Valparaiso.
31.	Wabash	Nov. 20, 1903	T. R. Brady, Pres., Wabash; W. A. Domer, Sec., Wabash.
32.	Grant	Nov. 20, 1903	J. W. Patterson, Pres., Fairmount; B. C. Dale, Sec., Marion.
33.	Lake	Nov. 20, 1903	W. F. Howat, Pres., Hammond; T. W. Oberlin, Sec., Hammond.
34.	Marshall	Dec. 9, 1903	R. C. Stephens, Pres., Plymouth; N. B. Aspinall, Sec., Plymouth.
35.	Vanderburgh	Dec. 10, 1903	C. W. Hartloff, Pres., Evansville; W. R. Davidson, Sec., Evansville.
36.	Hamilton	Dec. 10, 1903	C. H. Tomlinson, Pres., Cicero; E. E. Wishard, Sec., Noblesville.
37.	Fulton	Dec. 10, 1903	J. M. Ward, Pres., Kewanna; G. E. Hoffman, Sec., Rochester.
38	Howard	Dec. 10, 1903	J. H. Ross, Pres., Kokomo; J. W. Wright, Sec., Kokomo.
39.	Posey	Dec. 10, 1903	J. M. Glaze, Pres., New Harmony; F. L. Stallings, Sec., Caborns.
40.	Blackford	Dec. 10, 1903	M. M. Clapper, Pres., Hartford City; E. K. Scott, Sec., Hartford City.
41.	Huntington	Dec. 10, 1903	R. F. Frost, Pres., Huntington; Ervin Wright, Sec., Huntington.
42.	Spencer	Dec. 10, 1903	J. C. Jolly, Pres., Lake; H. S. Dome, Sec., Eureka.
43.	Boone	Dec. 10, 1903	L. P. Engleman, Pres., Lebanon; W. H. Williams, Sec., Lebanon.
44.	LaGrange	Dec. 12, 1903	A. G. Grubb, Pres., Mongo; J. L. Short, Sec., LaGrange.
45.	Ripley	Dec. 14, 1903	E. D. Freeman, Pres., Osgood; F. M. Olmstead, Sec., Versailles.
46.	Tipton	Jan. 1, 1904	H. G. Read, Pres., Tipton; A. W. Gifford, Sec., Tipton.
47.	Carroll	Jan. 1, 1904	C. E. Angell, Pres., Delphi; C. C. Crampton, Sec., Delphi.
48.	Putnam	Jan. 1, 1904	C. F. Hope, Pres., Coatsville; J. M. King, Sec., Greencastle.
49.	Knox	Jan. 1, 1904	George Knapp, Pres., Vincennes; J. W. Smadel, Sec., Vincennes.
50.	Randolph	Jan. 1, 1904	G. Reynard, Pres., Union City; B. S. Hunt, Sec., Winchester.
51.	Sullivan	Jan. 12, 1904	E. D. Thixton, Pres., Sullivan; C. F. Briggs, Sec., Sullivan.
52.	Owen	Jan. 12, 1904	Thomas Gantz, Pres., Freedom; Allen Pierson, Sec., Spender.
53.	Shelby	Jan. 12, 1904	F. E. Ray, Pres., Shelbyville; B. G. Keeney, Sec., Shelbyville.
54.	Daviess	Jan. 25, 1904	J. F. Parks, Pres., Washington; T. F. Spink, Sec., Washington.
55.	Hendricks	Feb. 15, 1904	D. M. Reynolds, Pres., Clayton; W. T. Lawson, Sec., Danville.
56.	White	Feb. 15, 1904	R. J. Clark, Pres., Monticello; J. H. Reed, Sec., Monticello.
57.	Monroe	Feb. 15, 1904	Thurston Smith, Pres., Bloomington; C. E. Harris, Sec., Bloomington.
58.	Benton	Feb. 15, 1904	Clark Cook, Pres., Fowler; C. M. McCaslin, Sec., Earl Park.
59.	Lawrence	March 16, 1904	J. A. Gibbons, Pres., Mitchell; A. W. Dierking, Sec., Oolitic.
60.	Martin	March 16, 1904	J. C. Trueblood, Pres., Loogootee; T. N. Braxtan, Sec., Loogootee.
61.	Fort Wayne (Allen)	March 21, 1904	E. E. Morgan, Pres., Fort Wayne; J. C. Wallace, Sec., Fort Wayne.
	(This is a reissue of Charter No. 1, which was surrendered and destroyed.)		

No. of Charter.	County.	When Issued.	Officers Making Application.
62.	Vermillion	April 20, 1904	M. L. Hall, Pres., Newport; O. M. Keyes, Sec., Dana.
63.	Steuben	April 20, 1904	H. D. Wood, Pres., Angola; T. J. Creel, Sec., Angola.
64.	Pulaski	April 20, 1904	William Kellsey, Pres., Monterey; W. H. Thompson, Sec., Winamac.
65.	Clark	April 20, 1904	D. C. Peyton, Pres., Jeffersonville; C. C. Crum, Sec., Jeffersonville.
66.	Greene	April 30, 1904	J. E. Talbott, Pres., Linton; W. H. Cole, Sec., Switz City.
		(Duplicate charter issued Nov. 20, 1906, same date and number, and same officers.)	
67.	LaPorte	May 6, 1904	E. G. Blinks, Pres., Michigan City; F. A. McGrew, Sec., LaPorte.
68.	Decatur	May 6, 1904	J. M. Wood, Pres., Greensburg; C. F. Kercheval, Sec., Greensburg.
69.	Gibson	May 14, 1904	W. W. Blair, Pres., Princeton; A. R. Burton, Sec., Princeton.
70.	Kosciusko	May 14, 1904	T. J. Shackelford, Pres., Warsaw; I. B. Webber, Sec., Warsaw.
71.	Harrison	May 25, 1904	William Moore, Pres., Elizabeth; F. E. Wolfe, Sec., Zanesville.
72.	Perry	May 25, 1904	C. T. Hendershot, Pres., Cannelton; E. R. Snyder, Sec., Troy.
73.	Floyd	May 25, 1904	Charles W. McIntyre, Pres., New Albany; W. P. Tebault, Sec, New Albany.
74.	Washington	May 25, 1904	W. J. Purkhiser, Pres., Salem; W. C. Cauble, Sec., Salem.
75.	Scott	May 25, 1904	Levi McClain, Pres., Scottsburg; T. E. Biery, Sec., Scottsburg.
76.	Dubois	May 25, 1904	E. G. Lukemeyer, Pres., Huntingburg; C. R. Ramsbrok, Sec., Huntingburg.
77.	Crawford	May 25, 1904	F. R. Gobbel, Pres., English; G. H. Abell, Sec., Sulphur.
78.	Jasper-Newton	May 25, 1904	B. W. Pratt, Pres., Goodland; A. L. Berkley, Sec., Rensselaer.
79.	Orange	May 27, 1904	E. D. Laughlin, Pres., Orleans; R. E. Baker, Sec., Orleans.
80.	Warrick	Jan. 28, 1908	J. G. Hoover, Pres., Boonville; Dalton Wilson, Sec., Yankeetown.
81.	Newton	May 26, 1908	L. H. Recher, Pres., Morocco; J. G. Kinneman, Sec., Goodland.

SOCIETY PROCEEDINGS

THE COUNCIL

The regular mid-winter meeting of the Council of the Indiana State Medical Association was held at the Columbia Club, Indianapolis, on Wednesday, Jan. 18, 1911. The meeting was called to order by the chairman, Dr. W. N. Wishard. The following members responded to the roll call: A. F. Knoefel, Linton, second district; W. J. Leach, New Albany, third district; W. H. Stemm, North Vernon, fourth district; J. H. Weinstein, Terre Haute, fifth district; C. S. Hougland, Milroy, sixth district; W. N. Wishard, Indianapolis, seventh district; G. W. H. Kemper, Muncie, eighth district; G. Van Sweringen, Fort Wayne, twelfth district; C. A. Daugherty, South Bend, thirteenth district. Albert E. Bulson, Jr., Editor of The Journal, F. C. Heath, president, and C. N. Combs, secretary of the State Association, were also in attendance.

The councilors' reports were not given in detail but were written out and filed with the secretary.

Dr. Albert E. Bulson, Jr., Editor of The Journal, made his annual report, which revealed a gratifying state of affairs. He very justly criticized that large number of county societies sending in no reports for publication. He requests more reports in condensed form, and those to be of recent meetings only, more personals, more news notes, and more correspondence on live topics. He recommended that not all papers referred to the state meeting be accepted, but that the program committee read over every paper and make use of their privilege in selecting only those of the proper standard. He thinks that because of our present scheme of having a definite subscription to The Journal from each member of the association that we will be able to retain our second class rates, an outlook much more hopeful than some other state journals have. He followed this with his detailed financial report which showed the total income from all sources for the year to be $5,470.68 and expenses $4,549.59, leaving a balance of $921.09. This latter amount is in bills receivable, and Dr. Bulson stated that it included about $300 of uncollectable accounts which have been carried forward from preceding years. The Journal has been conducted on the same high plane as in former years, all objectionable advertising being rejected and every effort made to produce a clean and progressive medical periodical. All of the proceedings and announcements of the association have been published, together with many reports of county and district societies, correspondence, original articles, editorials, etc.

Dr. Wishard said that there existed some misunderstanding concerning the financial management of the affairs of The Journal, and, further, that many of the members could not understand the reason for increasing the state dues. After some discussion of the subject, a motion made by Dr. Knoefel prevailed that the chair appoint a committee to draft a vote of confidence in Dr. Bulson, explaining clearly to all the members the terms of the contract existing between the State Association and Dr. Bulson, showing how he has more than fulfilled his part of the same, and explain the reason for the increase in the dues. The chair appointed Drs. Knoefel, Kemper and Daugherty.

Following this came a discussion concerning the charters issued to the county medical societies. It was discovered that some societies have neglected the careful preservation of their charters, and that other societies thought that the charter belonged to the officers and not to the county. Dr. Hougland moved that the secretary notify each county secretary that each society in order to maintain its members in good standing must possess a charter, and that no new society can be organized without surrendering the old charter; and, further, that no delegate will be recognized from a society not possessing a charter. Motion carried.

Dr. G. W. H. Kemper presented the following resolution, which was adopted with hearty accord:

Whereas, Dr. William H. Wishard only yesterday, Jan. 17, 1911, celebrated his ninety-fifth birthday, and inasmuch as Dr. Wishard was a member of our State Medical Convention in 1849, has been a member of the Indiana State Medical Society since 1850, and our Indiana State Medical Association since the change

of name, as he is the whole survivor of that band of noble physicians, eighty-four in number, who laid the foundation of our Association, and as he has always been loyal to our Association, ethical at all times, and a valuable contributor to the medical literature of the state, and now at this advanced age is a type of the old and the new physician, and his character is, and always has been so christianlike and noble, therefore, be it

Resolved, That this Council, now in session, extend its kindest wishes, love and congratulations to Dr. Wishard, and that we express the hope for his good health, comfort, peace and joy during the remainder of his natural life.

The chair appointed Drs. Kemper and Daugherty as an auditing committee and the usual bills which were presented were ordered paid.

Charles N. Combs, Secretary.

INDIANAPOLIS MEDICAL SOCIETY

Meeting of November 8

Meeting was called to order by the President, Dr. Earp. The first paper was read by Dr. S. E. Earp. Subject, "The Mathematics of Medicine." See abstract appended.

The second paper was read by Dr. W. F. Hughes. Subject, "Sympathetic Diseases of the Eye."

DISCUSSION

Dr. Heath: Every general practitioner should be well informed about those diseases of the eye, which threaten blindness. Since most of these cases are seen early by the general practitioner, early and proper treatment is such an important factor in the result. It is generally accepted that a so-called sympathetic inflammation of the eye is of bacterial origin, although no distinct organism has been proved guilty. Various routes have been assigned for the entrance of the organism. There are still, however, many features of the sympathetic inflammation which have not been explained by any theory advanced. It has not been explained why penetrating wounds of the eye ball are so frequently followed by inflammation of the uninjured eye, while suppurative inflammations of one eye are not often complicated by a similar inflammation in the other eye. Foreign bodies imbedded in the lens not infrequently become encysted and do no harm. Same thing is true in the iris, but not infrequently an active inflammation appears after many years' quiescence. Sympathetic inflammation rarely develops inside of two weeks, therefore Dr. Heath's plan, based on his experience with these cases, is to adopt a conservative method of treatment if the injured eye is doing well, and no signs appear in the uninjured eye. If, however, the injured eye shows a rapidly progressing inflammation, or symptoms appear in the uninjured eye, delay in enucleating the injured eye is unwise.

Dr. J. J. Kyle: Objects to the term "sympathetic" ophthalmitis. He has never seen in all his practice a case which really justified such a term. He formerly held the orthodox view of early routine removal of an eye with penetrating wounds, but his experience has made him more conservative and more hopeful of recovery without radical operation. So long as there is no infection, he feels safe in waiting. He has seen pain and tenderness in the other eye from an old stump of an injured eye, or in connection with the other eye. But this passed off in a little while without any exudation or other harmful developments. He makes an effort in all cases to remove the foreign body, not so much to avoid sympathetic inflammation of the uninjured eye as to relieve pain and to prevent further injury in the affected eye.

Dr. C. S. Weeds: It is an unfortunate fact that we do not now have accurate vital statistics. Births and deaths are now, and have for a number of years, been recorded with a fair degree of accuracy, but at least in this city and state, it has so far been impossible to obtain a satisfactory report of the infectious diseases. It is an interesting historical fact, that deaths in Indianapolis were not reported prior to 1878. Physicians in this city are still failing to report at all, cases of infectious diseases, especially tuberculosis. This is proved by the fact that more deaths are reported from this disease, than cases reported. It is the duty of a physician to report every case that he sees at whatever stage, and not to presume if the case has come to him late that it has been reported previously. Moreover, even where the diagnosis is somewhat doubtful, if the diagnosis is made clinically and there is a good basis for making such a diagnosis, a case should be reported. While every death now is reported, the death certificates are not yet thoroughly satisfactory since they show a great looseness in their statements. Proper reporting of contagious diseases is an absolute necessity in safeguarding the public welfare, and limiting the disease, as every enlightened community is striving to do. He also said that the first case of acute anterior poliomyelitis in this city had been reported to-day. Diagnosis was not positive as yet, but the case was being watched carefully.

Dr. C. R. Sowder: Accurate vital statistics afford us the only means of judging of the success of public sanitary measures. He believes that the state should impose penalties for failure to promptly and properly report contagious diseases, especially tuberculosis. Efficient and wise legislation can not be secured until accurate statistics are available. He believes that the system of school inspection, as at present carried on in Indianapolis and elsewhere, will in a very few years show mathematical and distinct reduction in the number of cases of contagious diseases. There are difficulties in the way of making the proper reports, which are not always appreciated by the laity. The family physician is not infrequently importuned not to report a case of infectious disease in a family, or more frequently, not to state on the death return the actual cause of death. A greater effort should be made by physicians to find the real cause of a patient's illness or death, and to report that real cause rather than merely some prominent symptom. Another value of accurate statistics is the help it gives to physicians in making a prognosis. A recent case of pulmonary hemorrhage caused both the doctor and the patient grave concern. When he found through the statistics given by authors that deaths from pulmonary hemorrhages were extremely few, he was able to assure his patient and to derive considerable comfort from it himself.

Dr. A. L. Wilson said that negligence of physicians in reporting diseases and deaths accurately was brought to his attention very frequently while serving as county health officer, several years ago. On the

basis of his experience at that time, he had read a paper before this society urging accuracy and promptness in reporting deaths and contagious diseases.

Dr. Theo. Potter: The public should be impressed with the fact that the law imposes as much responsibility on the householder for reporting contagious diseases in his household, as it does upon the physician. This fact is not generally known, but if explained to individuals, they will frequently change their attitude towards reporting diseases, and stop any attempt to persuade the physician not to report the true conditions.

Dr. Burkhardt: A pernicious practice has grown among the undertakers. They not infrequently delay having the physician make out his part of the death return, until there is great haste, when they request him to tell them the cause of the death over the telephone. He believes that this should never be done and that the board of health should decline to receive any death return which did not bear the authentic signature of the attending physician, himself.

Dr. Hughes and Dr. Earp closed the discussion. Society then adjourned.

R. H. Ritter, Secretary.

ABSTRACT—MATHEMATICS IN MEDICINE

The earliest statistical information was furnished by Hally, the Astronomer, in 1693, which was a life-table constructed from the death records of Silesia. The records at Northampton in 1783 enabled Dr. Price to furnish mortality tables for life insurance. These were simply foundation stones.

The careful collection of vital statistics has furnished much information concerning most all diseases and especially cancer, epilepsy and tuberculosis.

Calculations are made by a mathematical formula which show the measure of damages to the body by injury or disease.

Pensionable disabilities were heretofore determined empirically; now they are a certainty and founded on an equitable and scientific basis.

In the Philippine Islands, we have the statistical data of leprosy which when completed will be the most complete clinical record known. The increase of lepers annually of 300 has been reduced to 50. Fisher shows on the basis of certain ratios of preventability, or rather postponability of death, the possibility of the extension of the average human life by saving lives now lost by preventable diseases. Some of the diseases of childhood should be 50 per cent. less. The reduction of the mortality by the life insurance companies could be accomplished by a system of education by which a policy holder, if examined at stated intervals, can be protected by a knowledge of his diseased condition when it is in its incipiency.

The author gave the history of the housefly and the damage done by it and its relation to disease dissemination. Emphasis was placed on the importance of reliable birth records, which are an important factor in descent and inheritance, guardians, estates, minors, insurance, marriage, child-labor and anything which bears a relationship to any one of these and perhaps many others which might be mentioned.

In commerce, trade and agriculture statistical information tends toward progression. In traffic, capital, labor, navigation and in fact the business world must recognize it as the telltale of profit and loss.

The Indiana methods were discussed and favorably commented on. Incomplete death returns showed ignorance of the doctor and carelessness will excuse no one. Indefinite terms such as dropsy, jaundice, debility, inanition and shock are meaningless and when given as a cause of death reflect on those who use them.

Statistics should be correct or as nearly so as possible and there should be a uniformity throughout the United States which can only be possible when physicians possess sufficient education to make correct returns.

S. E. Earp.

ABSTRACT—SYMPATHETIC INFLAMMATION OF THE EYE

The affection of the first eye which gives rise to sympathetic inflammation is an iridocyclitis almost without exception due to a penetrating injury to the eyeball. This transferred ophthalmitis develops usually from three to eight weeks after the injury. The paths by which the disease is transmitted are not definitely known. The optic nerve, the ciliary nerves, and the blood-vessels have been suggested.

The inflammatory condition in the sympathizing eye is usually preceded by an irritation consisting in photophobia, increased lachrymation, weakness of accommodation, and pain. Since the disease is practically incurable, the prophylactic treatment is a very important matter. A foreign body in the lens may remain indefinitely with the minimum amount of danger. A movable body in the vitreous is a constant source of danger. The ciliary body must be free from injury when any tolerance is shown towards a foreign body in the globe.

External examination will often fail to determine whether there is or is not a foreign body within the eyeball. A diminution of visual acuity is a symptom of great importance. Three methods of diagnosis are available; the sideroscope, electro-magnet, and the Roentgen rays. Ophthalmic surgeons recognize the X-rays as the most positive test for iron, steel, copper, brass, lead and stone.

Extraction of foreign bodies to be successful with the minimum amount of risk in regard to sympathetic ophthalmia must be done immediately after the injury. Magnetic bodies are usually best removed by the electro-magnet. The percentage of failures in extraction of non-magnetic bodies is very high. Generalizing, we may say that a foreign body inside the globe converts every injury into a serious lesion. Every possible effort to remove it should be made at once if an attempt to save the globe is justifiable.

The treatment of sympathetic ophthalmia is largely palliative and almost invariably leads to disappointment. Very large doses of sodium salicylate and mercury often seem to show some beneficial influence. Otherwise, the condition is treated as a severe case of iridocyclitis with atropin, dionin, etc.

After an attack of sympathetic inflammation has been established enucleation of the injured eye is contra-indicated since it has no beneficial effect on the sympathizing eye.

ALLEN COUNTY

Fort Wayne Medical Society

Meeting of Dec. 13, 1910

Society met in regular session in the Commercial Club Assembly room with thirty members and a number of visitors present.

The speaker of the evening, Dr. Harold A. Miller, of Pittsburg, Pa., addressed the society on the subject, "Placental Tuberculosis with Its Clinical Significance." The lantern demonstration in reference to the pathological and bacteriological part of the paper was in charge of Dr. Proescher.

Attention was called to the importance of the more thorough study of tuberculosis when it occurs in connection with pregnancy, as well as the neglect of the subject in the past. This neglect being due to the difficulties of finding tubercular lesions in the placenta where only slight tubercular changes existed. In some instances as many as 2,000 sections were made before evidence of tubercular changes were found.

From a clinical point of view it was concluded that a healed pulmonary lesion does not necessarily become realighted by the occurrence of pregnancy.

Laryngeal tuberculosis was fatal from a maternal point of view in fully 80 per cent. of the cases during pregnancy or the puerperal period.

Active tubercular lesions of the chest became progressively worse without regard to the treatment of the patient in a sanatorium or otherwise and caused maternal mortality of about 60 per cent. during pregnancy and the puerperal period.

Hemoptysis did not seem to be more frequent than when tubercular lesions existed in the nonpregnant or the male.

Hyperemesis permitted rapid progress of the tubercular lesion.

The pathology of the placenta was studied from literature of Schmorl, Geipel, Bossi, Sitzenfry and Warthin. Warthin's paper being considered the best and his classification thought to be the acceptable one.

The possibility that tubercle bacilli may pass through a defect in the syncytium without leaving evidence thereof, and in the placenta the tubercular process goes direct to primary necrosis without epitheloid or giant cell formation.

The effect on the infant seemed to show that the children were under the average weight. This underweight did not in itself prove tubercular infection as few of the infants showed evidence of tubercular lesions demonstrable by physical examination and von Pirquet's reaction gave negative results in 98 per cent. of infants born to known tubercular mothers.

Their method of demonstrating tuberculosis of the placenta was by dissolving the placenta in antiformin, centrifuging and examining the sediment. In this way many cases showed tubercle bacilli where microscopic sections failed to reveal evidence of the tubercular lesion of the placenta.

Microscopic slides were shown of these placentæ which appeared to be perfectly normal, while the centrifuged sediment upon examination revealed the presence of tubercle bacilli.

The discussion was opened by Dr. Allen Hamilton, who said that this article of Dr. Miller's is the only one that has appeared in the English journals in the last five years. It should stimulate us to more thorough investigation of the subject.

Dr. G. W. McCaskey said if the tubercle bacillus can pass into and through the placenta without producing a lesion, there seems to be no good reason why it could not pass from the maternal to the fetal structures without producing changes in the fetus. It seems likely that along with the tubercle bacilli there are antibodies that pass from the maternal to fetal tissues and this inhibits the growth of the tubercle bacillus. The investigations prove that the tubercle bacillus is much more often carried to the fetal structures than has been supposed.

Dr. L. P. Drayer said he thinks he has had two cases of tubercular endometritis in virgins, manifesting slight bloody discharge. On curettement tubercle bacilli were found. There were no secondary foci elsewhere. Questionable as to what effect this would have if pregnancy occurs.

Discussion closed by Drs. Miller and Proescher. Rising vote of thanks tendered them.

Adjourned to luncheon.

J. C. Wallace, Secretary.

Meeting of Dec. 20, 1910

Society met in regular session in the assembly room with twenty members present. Minutes of last two meetings read and approved.

Clinical cases. Dr. Chas. G. Beall reported a case of laryngeal diphtheria with extension of membrane into trachea and bronchi, and presented specimen. He said that about ten days before this case occurred, there was one of croup in low grade child in the institution. Numerous cultures revealed no Klebs-Loeffler bacilli. Antitoxin given and intubation done but child died. On autopsy found membranous inflammation from cricoid cartilage down to bifurcation of bronchial tubes. Specimen from mucous membrane showed Klebs-Loeffler bacilli. Three boys from same grade were taken to hospital. Two were discharged and the third had croup. Took culture from throat and gave him 10,000 units of antitoxin and intubated. This boy had no membrane visible but examination showed Klebs-Loeffler bacilli. He was given in all 54,000 units. The pathologic specimen shown showed laryngeal diphtheria with extension of membrane into trachea and bronchi.

Discussion by Drs. Morgan, Bulson, Porter, McOscar, McCaskey, Dancer, and closed by Dr. Beall.

Dr. A. E. Fauve read a paper on "Dilatation of the Stomach."

Dr. McCaskey, in opening the discussion, said that if a stomach is inflated in extreme cases of gastroptosis, lower border of stomach presents below umbilicus, and lesser curvature is often found below normal location. If the stomach holds three or four times what it should, the condition is gastrectasia. He does not think that the condition is always due to pyloric obstruction. A peritonitis involving peritoneal coat of stomach may cause gastrectasia. Concerning treatment of gastrectasia, Dr. McCaskey said, in addition to the suggestions of Dr. Fauve, that a great deal can be accomplished by making the stomach smaller (applying adhesive straps, electricity over abdomen, etc.). Surgical measures may be of service in extreme cases. Improvement of tonicity of the general system may assist.

Dr. Porter said distinction should be drawn between acute and chronic dilatation. Acute dilatation, if not cured promptly, kills the patient in a few hours. So-called cases of postoperative dilatation of the stomach recover if recognized early and cleaned out.

In chronic dilatation of the stomach, for which there seems to be no adequate cause and no pathologic lesion, the best treatment is posterior gastro-enterostomy.

Dr. McCaskey thinks that peritonitis of the peritoneal coat of the stomach is sufficient to produce acute gastrectasia.

Dr. Duemling said that acute gastrectasia did not occur in cases of general peritonitis. He believes the condition due to disturbance in nervous equilibrium. The Roosevelt clamp is best for making posterior gastro-enterostomy.

Discussion closed by Dr. Fauve.

Dr. L. L. Gardner read a paper on "Mastoiditis."

In the discussion Dr. Glock said that divisions of mastoiditis are arbitrary. Much mastoiditis is avoidable. According to Coats they should not be operated too early as small foci of infection may be overlooked. Spoke on blood-clot dressing.

Dr. Bulson said the diagnosis is made from no one symptom, but from a number of symptoms. The necessity for operation is indicated by number of conditions present. Bacteriological examination essential. The danger lies in complications of mastoiditis. Dr. Bulson does not believe that hot or cold applications should be applied for more than 24 to 36 hours. Cold diminishes leukocytosis and relieves the patient more than heat. Cutting the facial nerve when it occurs is nearly always in radical operation, but does not often happen in the ordinary Schwartz operation. The majority recover. He condemned blood-clot dressing. Heat from the leukodescent lamp is acceptable to the patient.

Discussion closed by Dr. Gardner.

Business session.

Adjourned. J. C. Wallace, Secretary.

Meeting of January 3

Society met in regular session in the Assembly Room with twenty-four members present. President Barnett in the chair. The new president, Dr. Wallace, was introduced by the retiring president. Dr. Barnett delivered a short address in which he outlined the year's progress and presented in a few words some reform measures which were timely and to the point.

Clinical cases. Dr. McCaskey presented a further report of a case of multiple neuritis involving the anterior cornu, which was presented some time ago. Since the report of this case, a number of cases have come under observation. Patient, 44 years of age, farmer, never strong. Last September had an attack of severe headache, then developed pain in arm, and was unable to use the arm. Diagnosis, anterior poliomyelitis. A few days ago found indication of atrophy on opposite side; deltoid nearly gone. Sudden weakness, indicating brain lesion, developed, perhaps due to rapid involvement of anterior cornu. Most muscles gave reaction to degeneration. Believes that all cases of poliomyelitis have involvement of sensory and peripheral nerves.

Dr. Porter presented case history of young woman, under 30 years of age, married; history of sterility; leukorrhea since early life. Made diagnosis of double salpingitis. Curettage was made for the leukorrhea, preparatory to opening the abdomen. An abundance of granular material coming away with the curette was noticed, and on section the material proved that an adenocarcinoma of the cervix was present. This history is given to demonstrate the necessity of more careful observation of all uterine cases. Owing to age, symptoms, etc., the malignancy in this case was unsuspected.

Dr. Wheelock presented a case of chronic trachoma. Patient had disease for a number of years, and has corneal ulcer with perforation and opacity; encapsulated iris, etc. Was operated several years ago and an artificial pupil established which resulted in giving sight enough for ordinary labor (farming). Has had a number of attacks of chronic (recurrent) trachoma. Acting on the report of Dr. Greenick of the New York Eye and Ear Infirmary, who has had good results in these cases by removal of the superior tarsal cartilage, the patient was operated in this way one week ago. Patient presented to show the very good result obtained. Dr. Wheelock will present this case from time to time to show the final result.

Dr. Wheelock presented a paper on "London Hospitals" which was very interesting and entertaining. In the language of the essayist, "London has nothing on the U. S. either surgically or otherwise."

In discussing the clinical case, Dr. Bulson said he objected to the operation done in this case (trachoma), because in course of time ptosis is apt to develop. Has been most successful in these cases by doing away with the pressure symptoms, corneal disturbances, etc. The correction of entropion is difficult and successes are not frequent. The operation of Hotz is perhaps the best.

Dr. Greenawalt mentioned the greatest points of interest to him in his trip abroad.

Dr. Wheelock in closing said that the object of the operation in this case has been to relieve patient of acute exacerbations of his disease.

Dr. G. Van Sweringen presented a paper on "The Toxemia of Pregnancy." On motion the discussion of this subject was deferred until the next meeting.

Reports of secretary and treasurer read and referred to auditing committee composed of Drs. Kimmel, Ditton and G. Van Sweringen, appointed by the president. After his report, the retiring treasurer, Dr. W. P. Whery, was presented with a loving cup and made a life member of this society in token of his long and faithful services as an officer of this society. The presentation was made by Dr. Porter. Dr. Whery was completely surprised but responded in a very happy way.

Report of board of censors on the application of Dr. C. H. Martz was made, but the report not being complete a motion to table was made and carried. Motion made and carried that the society award the customary honorarium to the retiring secretary. Dr. Wheelock presented a resolution with reference to the reduction of the present customs duties on instruments, apparatus, etc., used by physicians. [Resolution printed in the January number of The Journal.]

Adjourned. G. Van Sweringen, Secretary.

Meeting of January 9

Society met in regular session in the Assembly Room with fourteen members present. President Wallace in the chair. Minutes of previous meeting read and approved.

The paper on "Toxemia of Pregnancy," of last week, was presented for discussion. Discussed by Drs. Rhamy, Beall and Johnston. Closed by G. Van Sweringen.

Dr. C. B. Stemen read a paper on "Appendicitis." Dr. Stemen emphasized the necessity of early diagnosis, mentioning the difficulty in obtaining the consent of the patient to operation, owing to newspaper "ads" claiming to cure appendicitis by food stuffs and without the

use of the knife. Believes every case a surgical one. In those cases where operation is refused, he recommends the treatment by starvation, application of ice, etc.

Opening the discussion, Dr. Hamilton said that he had been extremely interested in the occurrence of appendicitis in children. Under five years of age these cases are difficult to diagnose because the symptoms are foreign to seat of lesion, i. e., in a series of cases recently reported by Churchman in the Johns Hopkins Bulletin, some of the cases presented urinary symptoms, others the symptoms of hip-joint disease. Diagnosis of appendicitis in children under five years of age is seldom made until abscess formation has taken place. This class of cases produces the largest per cent. of postoperative obstruction. Cases under two years of age are very rare. Reported the case history of a patient operated for Dr. Porter, in which the diagnosis of intussusception was made. A mass could be felt in the rectum. On operation it was found to be a case of suppurative appendicitis, the mass in the rectum being the abscess wall.

Dr. Wheelock said that his experience in this class of cases was limited. A recent experience has convinced him that we have heretofore been too ready to censure the surgeon for operating too soon on these cases. Patient 18 years of age. Had had pain at menses. A few years ago the pain seemed more intense during her menstrual period, and tenderness developed in the right side. Pressure over the appendix produced pain referred to the cardiac area. Diagnosis of appendicitis made at that time but operation was deferred and recovery took place in a few days. Within a few weeks the same symptoms reappeared, and operation revealed a gangrenous appendix, proving that former attack was also appendicitis.

Discussion closed by Dr. Stemen.

Adjourned. G. Van Sweringen, Secretary.

Meeting of January 17

Society met in regular session in the Assembly Room with twelve members present. President Wallace in the chair.

The essayist, Dr. McCaskey, being unable to be present, the reading of his paper was deferred until some future meeting.

The subject of "The Toxemia of Pregnancy," the paper of two weeks ago, was taken up for discussion. Dr. Porter, in opening the discussion, said, if it is true (it has not as yet been proven), that all these cases are the toxemia of pregnancy, we already have sufficient evidence to make two divisions of cases, i. e., those due to toxemia and those due to kidney insufficiency. We would not save as large a proportion of these cases by emptying the uterus as we do if they were all followed by liver degeneration and other pathology of the toxemia of pregnancy. A woman with hyperthyroidism does not die with toxemia of pregnancy—the toxemia seems to be balanced by hyperactivity of the thyroid. It is dangerous for a woman who has had part of the thyroid removed to become pregnant. If you do not have an enlargement of the thyroid in normal pregnancy, look out for breakers ahead. Crile has demonstrated that when absolute anemia is produced, whether it be by shock, fright or toxemia, if the disturbance of the brain exists long enough these patients all die. The last centers to die are those such as the respiratory. Reported a case of toxemia of pregnancy which still presents symptoms of toxemia after one year, and thinks permanent damage was done by the toxemia in this case. Dr. Porter thinks the best results in toxemic cases are brought about by elimination of toxins. In eclampsia this is best done by copious venesection, followed by normal saline. The best treatment for the convulsions, in his opinion, is morphin. The lives of both babes and adults are saved in convulsions by the proper administration of morphin. Edgar's method of the treatment of eclampsia is to use morphin until respirations come down to 6 or 8 per minute, with the addition of eliminative measures, etc. It would be interesting to know what proportion of adult myxedema cases have toxemia of pregnancy.

Dr. Weaver said that acidosis is rather a result than a cause. Experiments quoted by Graham Lusk proved that acetonuria could be produced at will. It is the result of disturbed metabolism due to starvation. It has been recently found by Rosenau and Anderson that by injecting eclamptic blood into rabbits they can be sensitized to injections of human amniotic fluids, producing the phenomena of anaphylaxis.

Godall, of McGill University, reports three cases in which the milk of eclamptic mothers produced symptoms of eclampsia in babies, i. e., the babies became cyanotic, pulse rapid, convulsive seizures, etc. The cases present a striking similarity. Two of the mothers had been well previous to labor. After the first full nursing the symptoms developed in the child. He has found the report of but one case in the literature in which the same symptoms were produced by nursing. The infant was put on cow's milk, with recovery. The post-mortem examinations on these cases show the same pathology as that found in eclamptic mothers. Albumen and casts have been found in the urine of babies born of eclamptic mothers. We are warranted in keeping the child off the breast of the eclamptic mother until the mother is free of toxemia. The application of cold to abdomen or buttock will produce free urination, and it is easy to obtain a specimen of urine for examination by this method.

Dr. Rhamy asked Dr. Weaver if the acetonuria produced in these cases is not the result of extreme starvation. Dr. Weaver answered yes.

Discussion closed by Dr. G. Van Sweringen.

Adjourned. G. Van Sweringen, Secretary.

ADAMS COUNTY

The Adams County Medical Society met in regular session at the office of Dr. J. M. Miller in Decatur, January 13, and was called to order by president Thomas. Following the business session a paper on "Pain" was read by Dr. W. E. Smith, of Decatur. The author emphasized the fact that we should search carefully for the causes of pain, and not be too much contented to call it neuralgia, hysteria, etc.

Adjourned. C. C. Rayl, Secretary.

DECATUR COUNTY

The Decatur County Medical Society met in regular session January 27. Election of officers resulted as follows: President, B. S. White, Greensburg; vice-president, Charles R. Bird, Greensburg; secretary-treasurer, P. C. Bentle, Greensburg; delegate, M. A. Tremain, Adams; alternate, I. M. Sanders, Greensburg;

censors, B. S. White, J. M. Wood and P. C. Bentle. The society entertains the Fourth District Medical Society, which meets May 25, 1911.

Adjourned. P. C. Bentle, Secretary.

HUNTINGTON COUNTY

The regular meeting of the Huntington County Medical Society was held January 10. Dr. M. H. Krebs discussed the "Symptomatology, Prognosis and Treatment of Acute Mastoiditis," advocating the application of ice, or Leiter's coil to the mastoid. This line of treatment was taken exception to by several members, especially in the case of children, when it was stated that heat was beneficial. The prompt interference by operative procedure was agreed to by all.

The society passed resolutions asking the members of the State Legislature from the county to press for passage bills recommended by the State Board of Health, and also a bill to increase the facilities at Longcliff.

During 1911 the Huntington County Medical Society will meet the first Wednesday of each month at Huntington, the county seat, with one meeting at Roanoke, March 22; Warren, June 21; Markle, September 20, and Andrews, November 22.

After the program and business of the evening were finished, Dr. Hicks, president of the society, invited the members to partake of light luncheon and cigars.

Adjourned. R. Q. Tavixer, Secretary.

KOSCIUSKO COUNTY

The January meeting was held on the 31st instant. Resolutions were passed by the society in regard to the death of Dr. E. E. Haworth and Dr. W. S. Leiter, both of Claypool. Dr. S. C. Murphy of Claypool was elected to membership. Dr. F. J. Young, as chairman of the committee on Public Health and Legislation, reported favorably on the Ft. Wayne Medical Society's stand in regard to customs duties; on the proposed state hospital and on the amendment to the medical practice law. The society then endorsed these measures.

Dr. C. Norman Howard of Warsaw read a paper on "Diet." In the discussion which followed Dr. Young of Milford brought out the point that probably some of the unsatisfactory results from the use of tablets containing lactic acid bacilli was due to the fact that the material for these tablets is often prepared at a temperature of 37° C. This temperature suits the lactic acid bacilli, but it also suits a number of other bacteria. Should the temperature be raised to 55° C. it would still be well for the lactic acid bacilli but would tend to kill the other germs and thus a purer culture would be obtained.

President Yocum spoke of beef tea not being as valuable a food in typhoid as was formerly believed.

Dr. A. C. McDonald, Warsaw, said: "That overeating was certainly the cause of early deaths more frequently than overindulgence in drink. The big, heavy, good-livers are the ones who are cut off. There is no doubt whatever, that we are all more or less addicted to overeating. Overeating is certainly conducive to the diseases which make people older sooner than anything else—that is arteriosclerosis (with its accompanying trouble of paralysis) chronic Bright's disease and chronic myocarditis. The men who eat heavily of meats and other good things, as a rule are going to die younger than the others."

Adjourned. C. Norman Howard, Secretary.

LAPORTE COUNTY

The LaPorte County Medical Society met in regular session January 13. The following papers were presented: "Tetanus Neonatorum," F. R. Leeds, discussion opened by E. G. Blinks; "Pelvic Measurements," Geo. R. Osborn, discussion opened by F. V. Martin; "Fractures of the Femur," T. A. Olney, South Bend, discussion opened by F. A. McGrew.

Adjourned. Geo. R. Osborn, Secretary.

MADISON COUNTY

The Madison County Medical Society met in regular session in Pendleton, January 24, at 2 p. m., president J. E. Hall in the chair, and seventeen members present. Dr. L. E. Alexander read a paper on "Physical Basis of Psychological Research." Dr. Thos. Jones read a paper on "Goiter." Dr. Martindale reported an interesting case of obstipation.

Adjourned. Etta Charles, Secretary.

MARSHALL COUNTY

The Marshall County Medical Society was organized on January 12 and meeting continued to January 26. Charter members: Drs. R. C. Stephens, H. P. Preston, L. D. Eley, S. C. Loring, B. W. S. Wiseman, E. E. Parker, J. W. Eidson, C. F. Holtzendorff, A. C. Holtzendorff, J. B. Shipley and A. A. Thompson. Officers: president, L. D. Eley; vice-president, B. W. S. Wiseman; secretary-treasurer, J. W. Eidson; censors: H. P. Preston, one year; R. C. Stephens, two years, and S. C. Loring, three years.

The former society was discontinued by unanimous vote owing to lack of interest, and a new society organized. A live society with a dozen members will do better work and receive more benefit than a large society of non-attending members.

Regular meetings last Thursday of each month.

Adjourned. J. W. Eidson, Secretary.

NOBLE COUNTY

The regular meeting of the Noble County Medical Society was held in Ligonier, at the Hotel Goldsmith, January 17. The following program was carried out: Paper on "Infant Feeding," by F. W. Black, Ligonier, discussed by Drs. C. B. Goodwin, Kendallville, and Carlos Lane, Kimmell. Dr. B. Van Sweringen conducted a clinic, at the opening of the afternoon session. Dr. B. Pulskamp, Rome City, read a paper on "Antipyretics," discussed by Drs. A. G. Coyner, Kendallville

and J. W. Hays, Albion; Dr. F. R. Clapp, Ligonier, read a paper on "Etiology and Treatment of Pernicious Anemia," discussed by Drs. J. H. Nye, Cromwell and J. E. Luckey, Wolf Lake. Dr. K. K. Wheelock, of Fort Wayne, read a paper, and conducted an eye clinic. A paper was also presented by Dr. B. Van Sweringen, of Fort Wayne,

Adjourned. W. F. CARVER, Secretary.

WAYNE COUNTY

At the January meeting of the Wayne County Medical Society the following program was presented: President's Address, Dr. L. M. Gentle; "The Physical Basis of Habit Formation." Dr. Frank B. Wynn, Indianapolis; "Treatment With '606' and Reports of Cases," Dr. Mark Marshall, Instructor in Therapeutics, University of Michigan; "Psychotherapeutics," Dr. J. E. Myers, discussed by Dr. I. O. Allen.

Adjourned. DAVID W. STEVENSON, Secretary.

WHITLEY COUNTY

Only the city physicians attended the Whitley County Medical Society meeting in the assembly room of the court house, Columbia City, Tuesday afternoon, February 7. The uames of Dr. Jesse Briggs, of Churubusco, and Dr. S. R. White, of Laud, were added to the roster of the society. Dr. F. G. Griser presented the paper of the session. Dr. O. V. Schuman was assigned the subject "Diet in Tuberculosis," for the March meeting. The physicians were dined after the meeting by Dr. Alice B. Williams, Secretary.

Adjourned. ALICE B. WILLIAMS, Secretary.

BOOK REVIEWS

A TREATISE ON DISEASES OF THE SKIN. For the use of advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Sixth edition revised. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $6 net; morocco, $7.50 net.

This new edition of Stelwagon's "Treatise on Diseases of the Skin" has been altered in many details.

Since the recent careful study of pellagra in this country, it has been necessary to include the observations of American scientists on the disease. Dermatitis due to grainmite as well as that caused by the brown-tail moth, both of which have been quite prevalent during the past few years, are described. Sporotrichosis, likewise a malady of growing importance, is presented for the first time. The various skin manifestations in connection with the tropical diseases have also led to the introduction of new articles.

In the field of treatment one observes the important addition of the uses of liquid air and carbon-dioxid snow. As in previous editions, diagnosis, which is the most difficult and confusing part of cutaneous medicine, is given considerable attention. Much unimportant matter and additional interesting facts formerly found in the text, have been placed in foot notes as are also references to new literature. A few older plates have been eliminated and a number of unusually interesting ones added.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, M.D., Dean and Professor of Hygiene in the Medico-Chirurgical College, Philadelphia. New (5th) edition, thoroughly revised. 12mo. 508 pages, with 97 illustrations. Cloth, $2.25 net. Lea & Febiger, Philadelphia and New York, 1910.

Another edition of this useful hand-book upon hygiene and sanitation within so short a period of time attests well to the reception accorded the previous editions.

Some statements have been changed, some sections rewritten and some additions made.

No text-book of hygiene can be of value to the scientific practitioner, that does not keep pace with the enormous strides that mark each year's progress in this brauch and in a country like our own where vital statistics are not yet half-grown, data are more subject to variation than in the older established areas.

Dr. Egbert has taken cognizance of this fact but not to the exclusion of the rapid march of the scientific side of his subject. In his treatment of the topics of immunity and serum-therapy he has, however, unfortunately neglected to make mention of the interesting question of auaphylaxis.

But, all things considered, this work must undoubtedly be considered as one of the best and most comprehensive of the smaller texts on hygiene.

A TEXT-BOOK OF BACTERIOLOGY. By Philip Hanson Hiss, Jr., M.D., Prof. of Bacteriology Columbia University and Hans Zinsser, M.D., Associated Prof. of Bacteriology Leland Stanford Jr. Univ. New York and London. D. Appleton and Company. 1910. Cloth. $3.75.

The general plan of this text-book is somewhat different from that pursued in other volumes of the kind. The contents are divided into five sections: (1) the general biology of bacteria and the technic of bacteriological study; (2) infection and immunity; (3) pathogenic microorganisms; (4) diseases of unknown etiology; (5) bacteria in air, soil, water and milk. Following this is an index, first of authors, then of subjects.

Through study of the contents of this volume, one becomes familiar not only with the growth, characteristics and products of the bacteria apart from the animal body, thus gaining a knowledge of methods and procedures common to the study of pathogenic and nonpathonegic organisms, but also with complicated reactions taking place between the bacteria and their products on one hand and the cells and fluids of the animal body on the other. The continued active research along these lines with its fruitful outcome makes a familiarity with the underlying laws and principles imperative, that one may be in a position to realize the meaning and scope of these newer discoveries and methods and be in a better position to decide for himself their proper application and limitation.

In the section given to disease of unknown etiology we find no discussion of mumps, whooping-cough nor Rocky-Mountain spotted fever, particularly of the able work of Ricketts in connection with determining the etiologic factors in the last mentioned disease.

The publishers have succeeded in putting the subject matter into such form as to make the volume a very useful one with the knowledge contained therein easily accessible.

The work of two such able men will be received with much interest.

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ORIGINAL ARTICLES

OCULAR HEADACHE AND ITS RELIEF

F. C. HEATH, M.D.

President Indiana State Medical Association; Clinical Professor of Ophthalmology, Indiana University School of Medicine, Indianapolis, Ind.

The primary object of this paper will be to furnish aid in the diagnosis and relief of headache due to eyestrain. This form of headache is certainly one of the most common. Hare says the most frequent cause of headache is disorder of the digestive system, next eyestrain, and then neurasthenia and so on, while Casey Wood contends that 40 per cent. of all headaches come from the eyes and 75 per cent. of frontal headaches are due to eyestrain.

If it be said that Wood, as an eye specialist, represents one extreme, just as truly may we say that Hare, a general practitioner, represents the other and fails to appreciate the frequency of something not in his own line. Moreover, Wood, as well as Hare, has the reputation of being a conservative and scientific observer. It is significant that the general practitioner puts only one cause ahead of the eyes.

It is certainly an everyday experience for oculists to find glasses giving relief to headaches which had not yielded to any other form of treatment. The sensible and careful observer must recognize that there are many causes of headache and not draw hasty conclusions nor allow himself to go to the ridiculous extreme of claiming everything for his own special field.

Has the headache of eyestrain any characteristic features that aid in making the diagnosis, or are there any symptoms or signs that would lead us to suspect the eyes in any given case? If headache is caused or aggravated by using the eyes, it is not only a reason for suspecting eyestrain, but almost conclusive evidence of its existence, although we might have the same symptom in neurasthenia. In that case there would be other symptoms to help us, especially the tight band feeling about the head rather than actual pain. Other symptoms confirming the diagnosis of ocular headache would be blur in reading, reddening of lids, watering, blinking and other localized eye symptoms or such evidences of nervous disturbance as insomnia, nervous irritability and nervous indigestion. The presence of such signs or symptoms gives positive evidence, but their absence does not exclude eyestrain.

The location of the pain has considerable significance. Pain in the top of the head is probably never due to the eyes, but is usually uterine, ovarian, hysterical or neurasthenic (unless there is local disease of scalp, cranium or brain). Frontal headache, not associated with fever, comes from eyestrain, nasal obstruction, disordered digestion or some general disease like albuminuria, diabetes or syphilis. Deep orbital pain is usually from eyestrain or ocular inflammation, although it may be found, exceptionally, as part of a trigeminal neuralgia or as a nasal reflex, and sometimes as a soreness rather than actual pain in digestive disorders.

While the pain of eyestrain is generally bilateral, it may be occasionally unilateral. In all cases of unilateral pain, however, we should look carefully for sinus affections, and also for causes of neuralgia, especially for troubles of the ear, teeth and nasopharynx. Here let us exclude migraine, which differs so much from other headaches, being, as many think, an affection of the vasomotor system of neurotic origin, frequently hereditary, and not primarily due to eyestrain, although it may be aggravated by that or any other exciting cause.

When patients complain of occipital pain, I think of two things—neurasthenia and eyestrain. It is probably not infrequent, however, for uterine troubles to cause pain in this region. Temporal headache is rather rarely ocular in origin.

It seems strange to see Hare declaring that the most common headache from eyestrain is occipital. In looking over a large number of my case reports, I found my experience to agree with Wood, who puts the order of frequency of ocular headache as follows: supraorbital, deep orbital, fronto-occipital and temporal. The only change I would suggest would be to insert occipital before fronto-occipital, as I believe I have seen more patients who complained of occipital pain alone than when it was associated with frontal pain.

The next factor to consider is time. A morning headache is not likely to be ocular, for the night's sleep gives the eyes rest. The morning headache is, therefore, more apt to be nasal or neurasthenic, or a consequence of insomnia. Ocular headache, then, would come on later, after using the eyes on close work, or, where there are imperfectly balanced muscles, after a visit to the theater or art-gallery, a shopping tour, or a ride in a railway train or on a street car.

The character of pain in eyestrain is dull, not lancinating as in neuralgia, nor throbbing as in nephritis or digestive disorders.

Lying down relieves ocular headache but aggravates digestive headache. The same difference appears between anemic and congestive headaches. Excluding light benefits eye pain and rest relieves eyestrain, as already intimated.

If, now, with above named features (that is, a dull headache, frontal, orbital or occipital, worse on using eyes, relieved by rest, with or without accompanying local eye symptoms or reflex nervous manifestations), we discover, on careful examination, an error of refraction, or an insufficiency of the ocular muscles, the diagnosis of eyestrain is almost established beyond a reasonable doubt. Since, however, certain other causes at times produce similar symptoms, absolute certainty would require their exclusion. A few points in differential diagnosis should, therefore, be emphasized. Headache of nasal origin commonly begins at the root of the nose and runs directly backward, being aggravated by cough, apt to be worse in the morning, and is attended by obstructed breathing, discharge, sneezing or other nasal symptoms. Headache from digestive troubles is less constant than that of eyestrain and is made worse by lying down. It is relieved by emesis or purgation, it is of a throbbing or pulsating character, usually frontal but farther from the eyes than that of eyestrain. The face is apt to be flushed and there are other symptoms pointing to digestive disturbance, such as coated tongue, eructations, nausea, vomiting, hiccough, constipation or diarrhea, flatulence and gastric or intestinal discomfort. It must be remembered in this connection that eyestrain may produce nervous indigestion.

While occipital pain is frequent in neurasthenia much of the so-called neurasthenic headache is more of a feeling of pressure in the vertex or band about the head than actual pain. Moreover there are other evidences of nervous exhaustion. The typical headache of hysteria is as if a nail were driven into the top of the head. Uterine headache is sharp, usually occipital or vertical. Circulatory headache is accompanied by dizziness, vertigo, irregular heart, pulse sometimes weak, at other times bounding. In anemic cases there is pallor, more pressure than pain, and relief comes from lying down, while in congestive cases the face is flushed and there is throbbing pain, made worse by lying down.

It is true that we may have vertigo or dizziness in eye troubles, especially with astigmatism and insufficiency of eye muscles, but then there would be absence of these circulatory disturbances and presence of other confirmatory symptoms.

A very frequent cause of headache is rheumatism of the scalp, or indurated headache, as it is called. Of this some one has facetiously remarked: "Many a headache in a bald head has been permanently cured by wearing a wig." In attributing this habit to style or regard for personal appearance, we may be as much in error as in ascribing such motives for the use of glasses. In this rheumatic affection tenderness of the scalp is a marked symptom and it is helped by salicylates and massage. Phosphaturia produces a similar headache, only it is more dull in character and it is benefited by benzoate of ammonium.

In cases of diseased bone pain is localized. Syphilitic headache is apt to be very severe and persistent, worse at night, and it yields usually to big doses of the iodids. Of course a history of syphilitic infection helps to confirm the diagnosis. Malarial headache or browague is periodic and yields to quinin and arsenic. In Bright's disease pain may be dull but oftener it is throbbing with high arterial tension, and there may be vomiting, diarrhea, smothering attacks, dropsy and other symptoms with albumen and casts in the urine. Arteriosclerosis, diabetes, gout and lithemia have headache sometimes with other symptoms. In acute febrile diseases with head-

ache we would have the characteristic elevation of temperature and usually a rapid pulse, coated tongue and scanty urine.

A marked symptom in brain tumor is long-continued severe headache, sometimes periodic but usually constant, with optic neuritis and focal palsies. In abscess of the brain there is fever, it is of shorter duration, there is history of accident or infection, optic neuritis and palsies are generally absent, while in meningitis there is also fever, diffused pain, stiffness of the back of the neck, vomiting, delirium, stupor and paralysis.

Toxic headache from drugs or auto-intoxication first shows mental heaviness and pain in forehead, which frequently becomes unbearable. To this class probably belongs the headache due to bad ventilation, one of the factors in the headaches of school children. In fact we often find eyestrain as one factor only. Successful treatment requires attention to all the factors involved.

This emphasis of diagnostic points in different forms of headache will often furnish a clew to the diagnosis, but some cases will remain obscure and difficult. The point to be considered here is the necessity for careful and thorough investigation in all such cases. It is little short of criminal to continue to dose people with anodynes for headaches that could be relieved by proper treatment of the eyes, nose or other seat of trouble.

Having made a diagnosis of ocular headache, what shall we do for its relief? Anodynes and sedative eye-washes may give partial or temporary relief, but there are only two things to be recommended as likely to be of permanent benefit, viz., rest and proper glasses. Many cases need both, at least there should be some rest along with the use of glasses.

The term, "proper glasses," means glasses accurately fitted. Many people think the fitting of glasses an easy thing, entirely mechanical, a mere matter of trying a few lenses and selecting the one which seems to give the best vision. Possibly in some of the simplest cases this may be true and the patient can pick out a glass that will prove serviceable. But, as a rule, this is a dangerous practice, and people who are not willing to spend the money necessary for thorough work in this line have little regard for one of the most important organs of the body. A sufferer from eyestrain came into my office recently, wearing concave lenses when her refraction was hyperopic, requiring convex lenses. From lack of a proper examination she was wearing glasses that increased her troubles.

What constitutes a proper examination? My idea of this is best shown by a description of my usual method. After noting down the symptoms and history of the case, with inspection of external appearances and some inquiry into constitutional conditions as well as local affections that might possibly cause similar symptoms, I make a test of the vision and, using test lenses, learn what glass seems to give the best vision in each eye, far and near. Then the ophthalmometer is used to ascertain the difference of curvature in different meridians of the cornea, the principal factor in astigmatism. The glass indicated by this method is then tried.

The balance of the eye muscles, near and far, is measured, and then each eye is examined with the ophthalmoscope, which helps in confirming or correcting findings by the other methods as well as discovering diseases of the fundus, opacities of the media, condition of cornea, iris and other parts.

In a large proportion of cases homatropin or atropin is next used to control the accommodation and ascertain the total error. Indeed, if this is not done, many will receive only partial correction or even altogether wrong glasses by the contraction and irregular action of the focussing muscle. As soon as the effect of this medicine is secured, I first employ retinoscopy, or the shadow-test, by which we ascertain the refraction without asking the patient questions, a purely objective method. The ophthalmoscope and ophthalmometer are then used again, and the final resort to the test lenses is made. Not content with one trial of the lens which seems indicated, I try it usually several times, coming back to it again after trying others, to see if the patient gives the same answer as before. This is important as otherwise the patient may accept the wrong glass. This is more likely to be true when we do not use a cycloplegic, the ciliary muscle perhaps becoming exhausted.

When we have learned the total error of refraction, we have to decide how much of it to correct, and such decision will call for all our skill and judgment, consideration being given to age of patient, amount of error, how long glasses have been worn, occupation, habits, temperament, general condition and many other things.

It will thus be seen that a good refractionist needs brains, experience and skill, and must give plenty of time and reasoning to his work, using more than one method in order to get accurate results. There should be also special adaptation and fondness for the work. After twenty years' experience I find it of increasing

interest. Although less lucrative and less spectacular than major surgery, it is no less important.

It remains to say a word concerning cases with imbalance of ocular muscles. Here correction of the refraction and attention to the general system usually bring relief. Prisms are of assistance, especially where the error is in the vertical muscles. In cases of high degree proper operations should be performed, but this part of our work calls for the very highest degree of conservatism. "Be sure you are right and then go ahead!"

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THE LABORATORY VS. CLINICAL METHODS IN THE PRACTICE OF MEDICINE *

Dwight Munro Green, B.S., M.D.
MUNCIE

At the very outset of this paper the writer desires to set forth an explanation and to make a confession. The explanation is that he is not a laboratory crank, so-called, and he trusts that no brother physician will consider him such: for he has painful memories of a certain earlier paper written by him on the subject of Electrotherapeutics, and equally painful recollections of the for the time apparently ineradicable impression produced in the minds of his local medical brethren, that he had resolved to devote himself, body and soul, to the exclusive practice of electrotherapy. So he wishes to announce, here and now, that despite this paper, he will continue to practice regular medicine as heretofore, at the same old stand, as long and as well as the Lord will let him.

The confession he would make is this: The title of this paper, chosen with malice aforethought, is a deliberate misnomer. Such a caption causes it to appear that in the writer's mind there lies the idea that a mighty disparity exists between the bedside method of making a diagnosis and the laboratory process of arriving at the same conclusion; that between the two there is waged a warfare which knows no quarter, and perhaps asks none; that on the one belligerent side is arrayed the old-fashioned, honest but clumsy horse sense of our fathers in the profession, with its armamentarium of symptomatic treatment and potassium iodid when in doubt, and that on the other stands out boldly a keen-sensed, inquisitive, critical *scientific attitude,* which turns up its figurative nose in disgust, which is modified by pity, at the plodding follower of Hippocrates and his ways, and rushes into the combat with all the cock-sure confidence of Youth, intent on investing the Microbic Cause and capturing the Almighty Dollar.

Yet, however plainly this and similar ideas may seem to be set forth by the title, still, in the writer's private opinion, they are very far from the truth; and therein lies the reason for his choice of words. The successful merchant knows that advertisement, if it really advertises, must be so striking as to catch the eye of him who runs and compel him to read. Similarly, he who would send his ideas into the minds of others must first challenge their attention; and the negative assertion or the unpopular standpoint is by far the more successful for such a purpose. Incidentally, an excellent example of this recently appeared in the editorial columns of a widely read and opinion-molding newspaper. *"Taft,"* said the editor, *"is a greater man than Roosevelt."* Instinctively, without reading further, the admiring adherent of the strenuous one would commence to get hot about the collar; and then, indignation growing rapidly into anger, would glance further along the line to see what additional insult had been laid on the mighty wielder of the Big Stick, when this would meet his eye: *"Huh! Don't get mad! It was only Brother Charlie who said so."* Then, having sufficiently advertised the editorial, there followed certain subject matter destined to greatly influence public opinion; and it is safe to say that its wholesome truths sank infinitely deeper because of the apparently gratuitous insult with which it was headed.

And so with the title of this paper as published in the program of the Society. The writer, being no Quaker, and enjoying a fight, rather hoped it might arouse the early criticism of the radicals, on whichever side of the question they chanced to be. Advancement, be it in matters medical or non-medical, is had only by struggle. If this paper succeeds in inducing a struggle of discussion, the writer is persuaded that his purpose will be accomplished and advancement made in one small direction at least, even though it be at the expense of a few metaphorically broken heads.

One thing stands forth clearly, fixed and indisputable. As fair-minded, conscientious practitioners of the Healing Art, anxious to render our work as intelligent and efficient as possible, we cannot afford to ignore or neglect any practicable means of obtaining better insight into the conditions of our patients. If, therefore, the labora-

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* Read before the Indiana State Medical Association, at Fort Wayne, Sept. 29, 1910.

tory will afford us information which is either practically or absolutely unobtainable in any other way, we work injury both to ourselves and our patients if we do not take advantage of its possibilities. In such event the only question which arises is that of whether the laboratory *does* offer such assistance in diagnosis. If it *does*, then it is a necessary adjunct to practice; and the purpose of this paper is to demonstrate that it does, also endeavoring to show, in a limited degree, the nature and extent of such assistance.

Progressive medicine has proved conclusively in recent years that the imaginary strife between laboratory and clinical methods of diagnosis is as needless and unreasonable as the war which raged a few decades ago between Science and Religion. The one has been relegated to oblivion by the majority of sensible, sane-minded men, and the other should be and is being accorded the same fate. The work of the laboratory and the bedside interrogation should be one and inseparable, necessary adjuvants of each other, for their purpose is the same. United, they make for the physician's greater success and the public's larger benefit; apart, they work at a disadvantage for both.

The man who would practice medicine by the aid of the microscope and the test-tube alone would be a Colossus among fools; he would make a failure of his profession, and he would deserve to fail, because he would be a dangerous man. Yet, serious as such an arraignment may be, can less be said of him who, with a consistency worthy a better cause, depends solely for his diagnosis on the subjective clinical evidence which his senses present him at the bedside, on the problematic value of his patient's word, and on his own experience recalled from out of the Past? To be sure, from such sources he may gather all the information necessary to a successful handling of the case; if so, well and good; for it is results for which we strive, and the most practicable way of obtaining them is the best. Yet assurance, if assured, is doubly sure; and clinical evidence, if verified by the findings of the laboratory, renders the physician doubly certain of his ground, and increases his efficiency manyfold. There must be, therefore, out of pure necessity, a common ground between the two, from which the physician may grasp the best for diagnosis and for treatment, to the infinite betterment of his patient's prospects and his own material advantage.

But how frequently is this conclusion developed consistently? Occasionally, of course, dependent on the man; but of lamentably infrequent occurrence in the day-to-day routine of the average practitioner. It is no rarity to hear physicians in general practice claim that they are too busy to make careful examinations of the urine, the sputum, the blood, the gastric juice, etc. Perhaps statements of that sort are true; perhaps the physicians who make them are sorely taxed for time; yet these same men, if they are conscientious, are not too busy to make careful use of their stethoscopes when their patients exhibit disturbances of the organs of the chest; they are not too busy to search painstakingly over the abdomen of the suspected typhoid for rose-spots and gurglings; they are not too greatly pressed for time to take a temperature or observe a pulse-rate. It may be that such a physician is doing the work of two or three men, that he can scarcely find leisure to sleep and eat; still he is not too busy to take due notice of these guideposts which point the way to a correct diagnosis, *because he cannot afford to be*. Even though he is crowded to the very utmost for time, to neglect them would mean professional inaccuracy, inefficiency, a cessation of success and a falling away of business; and no man, however great his personal magnetism and professional prestige, can afford to so endanger his future, and play fast and loose with the ambition of a lifetime.

Yet in chest disturbances, in typhoids, in practically all the conditions in which the ordinary methods of clinical investigations are employed in arriving at a diagnosis, the laboratory is of marked assistance, confirming a suspicion here, explaining an obscurity there, or even disclosing a factor overlooked or unsuspected in a clinical examination, which may at once clear the way to a definite and certain diagnosis. The conscientious, progressive physician will not choose one means of diagnosis because it can be carried conveniently in the pocket, and ignore another because it cannot. He will choose those agencies which give him the most trustworthy and fullest insight into the true nature of his patient's ailment, discarding the less efficient with the same alacrity that a sorely pressed bear hunter might exhibit if offered a loaded 30-30 Springfield magazine rifle in exchange for a club. Laboratory tests must find a place alongside the stethoscope and the thermometer, because they provide varieties of information, obtainable in no other way, concerning the physical condition of the patient, which cannot be overlooked with profit; for the physician of to-day is no longer free to guess—*he must know*.

Perhaps it may appear that the writer is affirming that the average physician opposes the laboratory and belittles its use. Nothing of the sort.

The doctor of this day who decries the laboratory as a profitless bother and a silly devourer of time is an anomaly—a veritable rara avis. The difficulty lies not in that direction. On the contrary, I venture to surmise that there is not a medical gentleman present at this state meeting who is not a laboratory man himself, to a greater or less degree. We believe in the laboratory. I presume there is not one of us who does not, now and then at least, rummage through some scattered odds and ends in an obscure corner of his office, fish out a test-tube of uncertain appearance, and, blowing the dust off a bottle of nitric acid or Fehling's solution, proceed to test a sample of urine for the presence of albumin or sugar. And we get results. We find out whether there *is* albumin or sugar in that specimen, we join that knowledge with the items of our clinical evidence, and then act accordingly. We have had recourse to our laboratory, have cleared up certain points which have puzzled our minds, have determined that the unfortunate over whose probable ailment we have been cogitating has Bright's disease or diabetes; and then, satisfied that we have gone to the limit and really done the matter up brown, we lay test-tube and reagent bottle aside once more, perhaps unwashed, to await another day and another doubtful urine.

But wait a moment! Is that enough? Perhaps we have been somewhat deceived in the clinical findings which the patient presented. Perhaps our laboratory investigations have but misled, not enlightened us. Perhaps, after our patient has slipped out of our hands, either better, or, unhappily, worse, he falls under the care of a brother physician who goes a little deeper into matters. Then we are lucky indeed if we do not learn that the nephritic or diabetic to whom we imparted the sad intelligence that his days were numbered has been found by our slightly more scientific competitor to be possessed of a mild cystitis or to be secretly taking copaiba for an old gleet which he hadn't thought of sufficient importance to mention to us. And the competitor cures him of his Bright's disease or his diabetes with a simple bladder antiseptic or a warning to leave off his copaiba, sends him on his way rejoicing and spreading the news of his wonderful cure, while we are left holding the bag in the shape of an unpaid bill, and stigmatized with the brand of ignorance heartily applied by the willing tongue of our erstwhile moribund patient. We don't like it, of course; but whose fault is it that we did not place a little of that urine under the microscope, and find for ourselves the pus cells, the bladder epithelium and the bacteria which speak most conclusively of a cystitis, yet which, under the action of heat or nitric acid, are exhibited in the test-tube as albumin only? Or can we with good grace criticise the brother physician whose laboratory training reminded him that certain drugs when ingested give a sugar test in the urine? No! Most emphatically no! We can't do that and be honest with ourselves, to say nothing of the other fellow. But we *can* be frank enough to confess that we permitted an opportunity and a patient to slip through our fingers, which a little more careful investigation in the laboratory would have saved to us.

No, we must not draw the line of practicability too close, and say that the albumin test and the sugar test are all right, because they do not take much time; but that the rest of this laboratory business is all foolishness, and that any experienced clinician — meaning particularly ourselves — can get along perfectly well without it and do about as good work as the fellow who runs everything under a microscope. The least that can be said about that sort of attitude is that it is a mere dodging of the issue; and we dodge *not* because laboratory examinations take time, but because it takes extra work and study to fit ourselves to handle them and to remember *how* to handle them from day to day and week to week. Physicians are classically tireless in their work for others; day and night, rain and sunshine, heat and cold alike find them traversing the land, carrying solace and relief of pain and good cheer to the suffering millions; yet how do we shy at the work of acquiring the routine of consistent laboratory investigation!

Gentlemen, the sugar test and the albumin test are all right, so far as they go. But they are not enough, any more than five dingy test-tubes, one cracked, and three murky reagent bottles are enough. What of the first stage cases of pulmonary tuberculosis which have escaped diagnosis until hope of recovery is irrevocably gone and cadaverous features and wasted, cough-racked forms have made the cause of ailment plain even to the eye of the layman, because the sputum has not been examined microscopically for the tubercle bacillus? What of the helpless children and unsuspecting friends who have been infected by the promiscuous expectoration of the individual who has "a cold on the lungs" or a "chronic bronchitis" which his or her physician should have long before discovered to be tubercular? What of the cases of "tonsillitis" which have spread diphtheria far and wide over communities because, since the differentiation is often difficult or impossible clinically, smears have not been taken and the bacillus of Klebs-Loeffler searched for,

or perhaps grown in culture in the incubator? What of the cases of chronic malaria, imported to us from abroad, the pernicious anemias, the leukemias and other blood diseases which have gone the rounds from one physician to another, bringing discredit and reproach on the profession at large because their unhappy possessors have "tried all the doctors in town and none of 'em seemed to know what was the matter or do 'em any good"—until, quite by accident, and entirely without hope, they fall into the hands of some one who makes a blood-smear and lays bare the entire difficulty, although perhaps too late for any real benefit? These things are not vain imaginings; they are not mere pessimistic vaporings. They happen every day, and they will continue to happen so long as the snap-shot diagnosis and the old, time-worn, issue-dodging "touch of so-and-so" diagnosis are allowed to persist as an excuse for the physician's failure to get down to actual conscientious work and actually search out the causative factors of his patient's illnesses.

Not that the writer would advocate the routine laboratory examination of the urine, the blood, and perhaps the sputum of every patient who presents himself. That would be as unreasonable as foolish, and would call for much useless work and the expenditure of time which could be employed to far greater advantage both for patient and physician in some other way. The physician must not lose his common sense or his appreciation of the eternal fitness of things, or his case is hopeless. But the fact remains that if we as a profession are after results, we must go into the question of diagnosis both more deeply and more conscientiously, even if it is at the expense of some personal inconvenience and expenditure of time.

For example, it is not only in cases of suspected kidney lesion that the urine should be examined exhaustively; but in every case of mental or nervous or central derangement, in every case of disordered metabolism, in every case of difficult or obscure diagnosis, the urine should be examined carefully both chemically and microscopically for deviations from the normal. Such examination may disclose that the mental derangement has an uremic basis, or that the disorders of metabolism which are so distressing are due to intestinal toxemia; and the difficulties of diagnosis and the puzzle as to appropriate treatment fade away into nothingness with the discovery that an unsuspected chronic nephritis, or pyelitis, or low grade cystitis is present.

Again, it is not the mere presence of sugar in the urine which is of chief importance in diabetes; it is the *amount* of sugar, the actual number of grains to the ounce excreted from time to time, and the variation or constancy of such figures, the record of which enables the physician to keep accurate trace of the patient's progress—an imperative necessity to the intelligent treatment of the case.

Still again, the preservation of a twenty-four hour specimen of urine and analysis of the same may disclose a decreased excretion of urea, the correction of which wards off an eclampsia or an uremic coma; or it may show the existence of a diabetes mellitus or insipidus, perhaps impossible of detection in a single voiding; or it may furnish the clew in an increased amount and diminished specific gravity to certain causes of nervous strain which harass the patient's mind and baffle the skill of the physician until, in the absence of a laboratory scrutiny, he is able to win from the ailing one a perfect confidence.

Under the microscope the urine will show with accuracy the type of a nephritis, whether acute, subacute or chronic; whether parenchymatous or interstitial; and prognosis and treatment depend largely on the type. The microscope will designate, by the kind of epithelial cells present, the site of an irritative or inflammatory process along the course of the genito-urinary tract, whether it be in the glomeruli or uriniferous tubules of the kidney, its pelvis, the ureters, bladder or urethra. (Heitzmann, "Urinary Diagnosis and Analysis.") It will show the type of a cystitis, the degree of involvement of the bladder wall, and the microbic cause; and since there are quite different lines of treatment called for by infection of the bladder by different organisms, the value of such accurate knowledge becomes apparent.

In the matter of blood diseases, a blood-smear placed under the microscope frequently furnishes the sole and only positive item of proof or diagnosis. Pernicious anemia is such a disease. The peculiar changes in kind, appearance and number of the corpuscles constitute the only unmistakable evidence of the existence of this disease; yet the writer has heard read before a medical society, in evident good faith, a paper on Pernicious Anemia which recounted a surprising number of cases of that disease in the author's practice, diagnosed without the use of the microscope in a single case, and nearly all cured! The leukemias, too, while able to be diagnosed with reasonable certainty clinically, are identified absolutely by the use of the microscope even in the absence of a vestige of clinical evidence. Accurate counts of red and white blood-corpuscles in a given case, with a Thoma-Zeiss diluting apparatus and a Türck counting chamber, are invaluable indicators of

the reaction of a patient to certain modes of treatment or his rate of progress.

An almost interminable list of tests and reactions and processes of laboratory differentiation might be set down, and their value discussed at length did time permit. Critical discussion might be made of the diazo reaction of Ehrlich, by means of which the existence of a typhoid fever or a miliary tuberculosis may be demonstrated oftentimes before a positive diagnosis can be made by other means, and frequently when neither affection has been suspected; of the indican test, which appears with the onset of intestinal toxemia; of the various helpful tests employed in the examination of stomach contents, and their great value; of the tests for bile, for occult blood, for the presence of animal parasites in the blood or excretions; of the microscopic determination of the infecting organism in microbic invasion, whereby proper and curative use may be made of the various sera and antitoxins.

But it is the object of this paper to be general, and not specific; to suggest, rather than to go into prolix description of individual tests and methods. Not all of the processes which have been mentioned can be done without expensive apparatus; but by far the greater number of them can be handled successfully by any physician who will take the trouble to learn how or to remember what he has already learned, at a very small outlay of cash for reagents and glassware—*after he has bought his microscope.* The microscope and the work constitute the great difficulties; and the greater of these is—not the work, but the dread of the work. The labor is onerous at times—no experienced laboratory man will deny it. But the assistance afforded to the clinical interrogation is so great, the advantage obtained in the increased accuracy of diagnosis so pronounced, the effect, on the physician himself, of the habit of minute, critical, all-inclusive personal methods of examination of patients so far reaching, and absolutely beneficial to his professional character and prestige, that the modern physician, in justice to himself, his family and profession can hardly afford to neglect the laboratory method in the practice of medicine.

In conclusion, the writer desires to reiterate that it has been no part of the object of this paper to discuss laboratory tests and methods critically or in an exhaustive manner, nor from the standpoint of the professional laboratory expert—such being left to the discussion, if the discussion so desires; but the purpose has been rather to bring to the society—and particularly to the average general practitioner as the writer knows him—a deeper and more comprehensive appreciation of the extreme importance of *all* methods of critical examination for purposes of diagnosis. Modern laboratory methods do not by any means include all the routes by which correct diagnoses are to be reached; still less are they to be regarded as capable of superseding intelligent and painstaking physical interrogation and the scrutiny of clinical and family histories. They constitute but one small group in the great army of proper means to the desired end—correct diagnosis; but such a group as is called too rarely into even occasional use by the great mass of physicians, and which is even less frequently employed as a matter of daily routine by the general practitioner. The test-tube, the reagent bottle and the microscope should assume in every physician's practice their proper place alongside his stethoscope and thermometer—not with a view to superseding those valued aids to diagnosis, but of adding to the data they provide still other information of importance which is beyond their power to supply. None of us, no matter how clear-sighted we may be as clinicians, can afford to neglect or ignore any assistance to diagnosis which may be secured within the bounds of reason; but least of all that assistance which a few minutes spent in the examination of urine, or sputum, or blood will give—the assistance of *the laboratory.*

DISCUSSION

Dr. Clay Ball, Muncie: Osler has said that the one single factor which goes farthest to prevent quackery in medicine is the little laboratory. How strange that not one zealous Hoosier lawmaker has seen a method to eliminate quacks. But if Osler should visit some of us in our laboratories, I fear that he might have doubts as to the helpfulness and efficiency of laboratory findings.

Fearing that some laboratory crank will promptly proceed to question me I hasten to confess that I had no special laboratory training and have no special knowledge of the subject, but am only endeavoring to do what blood, urine and other laboratory work that I find helpful in my every day practice and that any physician can do who will take the time and trouble.

For the reason that blood work is so seldom attempted by the average physician, while almost every physician does some urinalysis, I shall confine my remarks to the examination of the urine and attempt to point out some common sources of error and the interpretation of a few findings.

As Dr. Green has said the specific gravity and tests for albumin and sugar are not sufficient. But some busy physician will say I can't work hours examining a specimen of urine for pus, blood, casts, bacteria, etc. The answer is, it doesn't take hours to examine every specimen of urine. With a centrifuge, microscope and other

necessary equipment you can do these things in a few minutes if you only know how.

Many skilful surgeons can do an appendectomy in from ten to thirty minutes, while for many of us the endurance of the patient would not be sufficient time. You simply must get acquainted with your instruments of warfare and be able to recognize things when you see them to economize time. My earliest recollections of examining smears was on fragile cover slips. I was continually in trouble. Now I use the slide for smears. Some of you are probably still waiting hours on the sedimentation glasses instead of using the centrifuge. But the question we should ask ourselves is not how much time does it take to do laboratory work, but how important and how useful are our findings in making a diagnosis. Laboratory work poorly and inefficiently done is often worse than none at all; it is misleading.

Only recently I saw a woman uremic, yet two physicians had examined the urine a short time before for albumin and sugar, finding neither and pronouncing her kidneys sound. Absence of albumin and casts in a single specimen of urine does not rule out the presence of a contracted kidney. If the clinical evidence points to nephritis repeated examinations should be made. On the other hand, casts constantly appearing, probably at times a little albumin, low specific gravity and polyuria are very suggestive of interstitial nephritis. In other words, the clinical and laboratory findings should be considered together and not individually in making a diagnosis.

How often does the clinician get his cue for a diagnosis from the finding of blood-cells, pus cells, casts, epithelium or bacteria in numbers in the urine. True the mere finding of blood, epithelium, pus and bacteria do not alone always indicate from what part of the genito-urinary tract they come, notwithstanding the claims of our enthusiastic urologists. I, at least, am unable and unwilling to make a diagnosis from the size and character of the epithelial cells. While it may at times be done, there are so many sources of error that I believe it is often impossible and certainly unnecessary. For all practical purposes I believe it is possible to obtain the urine uncontaminated from the ureters without employing ureteral catheterization. If so, we can eliminate the bladder and prostate and thus simplify our findings. The method is simply to carefully wash out the bladder with a weak boric solution until the washings come away clear and have the patient return in about an hour when you may get another specimen.

Of course if the condition is a surgical one, this method will not show which kidney is involved. This you must determine by the physical examination of the patient or resort to the catheterization of the ureters.

For the microscopic examination of the urine, much depends on when and how the urine is collected.

The finding of bacteria in the urine is diagnostically important only in freshly voided urine and in urine obtained by catheterization.

Doubtless all of you have gotten specimens of urine that appeared hazy and peculiarly opalescent in a strong light that remained hazy when heated and when treated with strong acids. This urine remains hazy when centrifuged, the deposit being best thrown down when alcohol has first been added. The deposit is almost entirely bacteria, often more or less epithelial cells, sometimes a few pus cells and casts. When this condition persists, and it usually resists all treatment, we have the condition known as bacteriuria.

Repeated examinations over a long period of time may show just this same bacteriuria. This is a condition to which I believe the average practitioner has not paid sufficient attention. I have seen two such cases, but Dr. Andrews of Muncie informs me that he followed about a dozen. Three have died. Our cases have all been in women. Many of them appear fairly well nourished. They are usually neurasthenics, often complain of extreme weakness and have periods of depression. Bladder irrigations have no effect, nor has urotropin nor diluent drinks. The process of obtaining an uncontaminated specimen of urine from the ureters proved in these cases that the trouble was located above the bladder. The condition may obtain for some years when the patient suddenly becomes uremic and we are aware that we are dealing with a case of nephritis. Casts may appear plentifully at the last.

The affection is usually due to the colon bacillus. The condition can be recognized only by the aid of the centrifuge and microscope.

I am speaking in general terms. In women, we understand that bacteriuria is usually the expression of a pyelonephritis. If so, we are to expect the clinical history and laboratory findings to vary with the degree of the nephritis. But the point I wish to impress is this: the urinary examination may show for months or even years only bacteria and epithelial cells.

Dr. G. W. McCaskey (Fort Wayne): The time is past when it is necessary to go before any medical society and laud the value of laboratory methods. When I saw this title on the program I did feel that I had something to say in criticism of the paper, but this criticism was swept away by the essayist in his first paragraph. There is no conflict of the one against the other.

If there is anything I would feel inclined to criticize in what the doctor said in his paper it might be the inclination not to use these laboratory methods as generally as I think they should be used. It may be difficult for me, after some fifteen or twenty years absence from the ranks

of the general practitioner, to put myself in his place; but from my point of view, with all the classes of cases I see, I do not think any case passes my hands in examination without a more or less complete urine and blood examination. I feel that so far as the urine and blood are concerned, I want the data that can be obtained from these two sources in every case that comes before me for attention.

There is one factor about laboratory work that I would like to emphasize, and that is that in discharging our duty to our patients we can see the breakers that are ahead of our patients—months and years ahead, and frequently by complete laboratory methods which carry us beyond the immediate necessities of the case, we may be able to see years ahead. Just as an illustration, I have two or three patients under observation in whom I found, probably two years ago, a relative lymphocytosis with leukemia. I found some glandular enlargement, the spleen was barely palpable. They are likely in the future to turn into lymphatic leukemia. This shows how we may determine by laboratory methods positive danger for our patients in the future.

There is no conflict between laboratory and clinical methods. I would no more attempt to make a diagnosis without the aid of laboratory methods than I would without the history of the case. This examination may lie along the line of complete fecal examination, or stomach examination, but it should always be a fairly complete urine and blood examination. In my satchel in which I carry my ordinary appliances I invariably have not only an ordinary outfit, but in addition I carry bouillon and an outfit for making cultures, and I often find it a very great benefit in making diagnosis.

Dr. Green (closing): I am certainly gratified at the discussion of my paper. I chose this subject for the purpose of bringing out discussion.

As Dr. McCaskey has said, there is no fight between the laboratory method and the clinical method. Some physicians may believe there is, but as a matter of fact there is not. Dr. McCaskey and the Mayos represent the ideal, in all probability, for which all of us should strive. Most of us will not get there. Men of their ability who are placed in position to have all this work done for them, are fortunate, indeed, and are able to give their patients the best that any man can give. Those of us who are not placed in similar position can only attempt to do both lines of work ourselves. We must go into the clinical side of our patients' difficulties the best we can, and we must use the information we get from that source with the other means at our disposal. But it is a duty to ourselves and our patients that we make use of every means possible that will help us to arrive at a diagnosis more quickly.

AUTO-INTOXICATION FROM THE ALIMENTARY CANAL*

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Between 30 and 60 billion living organisms are excreted through the feces of a healthy adult in twenty-four hours. At the same time an equal number live their life's cycle within the digestive tract. Is it no small wonder then that pathologic conditions frequently arise, making themselves known by subjective and objective symptoms, which the physician is called on to correct? The greatest wonder is that man, inhabited as he is, survives long enough to tell his tale at all.

The most frequent conditions found are infection and intoxication. They are closely allied and often associated. Strictly speaking one is the agent, the other the product. But one may be present without the other. Infection may be running riot and yet through elimination no intoxication may be manifested. Again, through abnormal processes or ingestion of chemicals into the body, intoxication may produce the most alarming symptoms. We are now discussing the last condition as it has to do with the alimentary canal.

The term auto-intoxication is a difficult one to define. Dr. F. Muller of Marburg rigidly limits the term to such conditions as carbonic acid poisoning, uremia, diabetic coma and such pathologic conditions as are due to imperfect thyroid and suprarenal activity. But this definition it seems to us is not comprehensive enough. Bouchard, the French physician, who is probably the most quoted authority on this subject, defines it as "the self-poisoning of man by metabolic products formed by the organism itself or by toxins produced within the gastro-intestinal tract."

In the gastro-intestinal tract two disintegrating processes are constantly at work. Fermentation of carbohydrates from decomposition, and putrefaction consequent on the breaking up of proteids. From these two processes most of the toxins are formed which produce gastro-intestinal auto-intoxication.

According to Herter there are four forms of fermentation which may occur in the stomach or the upper part of the small intestine: (1) alcoholic fermentation, (2) lactic acid fermentation, (3) butyric acid fermentation, (4) acetic acid fermentation, and another form might be added, that of oxalic acid fermentation. Two or more of these may occur at the same time but generally one predominates.

* Read by title at the Fort Wayne meeting of the Indiana State Medical Society, Sept. 29, 1910.

Alcoholic fermentation is produced in the presence of some form of the yeast plant together with a sugar. The yeast plant grows well in a neutral or slightly acid medium, therefore the formation of alcohol in a 0.2 per cent. hydrochloric acid medium is compatible and this form of fermentation will often proceed where other forms of bacteria are inhibited. The decomposition of the yeast plant and the sugar results in glucose, ethyl alcohol, carbon dioxid. In a normal stomach the amount of alcohol formed is of no consequence, but persons with dilated stomachs who indulge freely in carbohydrates may have an abnormal amount formed and the absorption of it by the blood may cause the same pathologic conditions as would be caused by the ingestion of the same amount by the mouth

Lactic acid fermentation is induced by many organisms but in human beings the decomposition is generally referable to the *Bacillus acidi lactici* or the *B. lactis aerogenes*. The colon bacillus may also ferment carbohydrates. Even in the saliva and mucus of the mouth, lactic acid forming micrococci have been found.

Indeed, Dr. Talbott of Chicago lays many of the ills of the mouth and the teeth at the door of the lactic acid-forming organisms found in the mouth.

The chemical conditions that favor lactic acid fermentation are somewhat different from those forming alcohol. The conditions found in the stomach favorable to lactic acid formation are a neutral or slightly acid medium containing sugar and proteid. This condition more often prevails where there is diminished motor activity of the stomach, dilatation of the stomach or impaired secretion of or absence of hydrochloric acid, and the excessive use of carbohydrate foods, especially sugar.

Little is known about conditions under which acetic acid fermentation occurs. It often occurs in small quantities in gastric dilatation. It may also be found in the feces where intestinal fermentation has been active. Herter says it may occur only where alcoholic fermentation is present.

Butyric acid fermentation is by no means uncommon in the digestive tract, and is easily distinguishable by its pungent odor; several organisms have been described as having the power to produce it. The most familiar one is known as the *granulo-saccharo-butyricus immobilis*. The organism is commonly found in milk, cheese, flour, water, dust, human feces, etc. Many substances are capable of producing it. Sugar and starches are its chief source, but it may be formed from tartaric, mucic, citric or malic acid. Proteids are also thought to yield butyric acid. In general, we say that lactic acid and all bodies capable of yielding lactic acid are capable of forming butyric acid. The formation of butyric acid from lactic acid is accompanied by the formation of carbonic acid gas which is so important an element in flatulence.

These different forms of fermentation are regarded as normal products in the digestive tube just so long as they have no pathologic effects, but when any of them are formed in large quantities they are capable of doing harm.

What are the pathologic effects due to and how are they manifested? The local effects of fermentation are due to the formation of gases and the irritative action of fermentative products. The production of gas leads to the distention of the stomach. This in turn leads to eructation, the patient is conscious of a fulness, and percussion reveals distention. If the distention is upward, the heart is weakened and its action crippled. If distention is sufficient palpitation may occur. Continued distention favors motor insufficiency and chronic dilation of the stomach. Frequent distention may also cause a decrease of stomach secretions and produce a chronic or a catarrhal gastritis.

If much gas is liberated in the intestines they are also distended, causing great discomfort and often pain until relieved by the passage of the gas through the anus.

Herter mentions three clinical features dependent on intestinal fermentation. They are: (1) diarrhea and colic dependent on the creation of an acid, generally acetic acid; (2) change of color and character of the stools due to the mixture of gas and acids; (3) loss of weight and strength dependent on a loss of food potential. Some of the general effects other than the loss of weight are headache, drowsiness, mental depression and general malaise, irritability, change of disposition and alteration in the composition of the urine.

The putrefactive processes which go on in the intestinal canal are much more important than the fermentative processes, because of the fact that their products consist in part of toxic nitrogen or sulphur-holding substances. Objective symptoms of putrefaction are most clearly demonstrated in the urine, and are found in the etherial combined or aromatic sulphates. The fact that the sulphates of the urine are derived from the proteid substances was conclusively proved by the observation of Baumann made on a patient, who for many weeks passed the intestinal contents through a fistula in the upper part of

the small intestine. He found that during the time that the contents were passed through the fistula there was a marked diminution in the amount of etherial sulphates in the urine, indol, phenol and aromatic oxacids being present in mere traces. When the fistula closed there was a marked increase in the etherial sulphates excreted by the urine.

Of course the presence of etherial sulphates in the urine is not dependent entirely on putrefactive processes in the intestine. They may be increased by putrefactive processes in other parts of the body where there is insufficient drainage and much suppuration or where the free use of drugs of an aromatic nature is indulged in, such as salol, creosote, benzosol, sulphur, etc. As I said before, the urine is the thing we look to to discover if we have abnormal putrefactive processes taking place in the digestive tube, as it is the indican in the urine which is our guide. The most frequent agents which cause an increase in indican are: (1) suppurative processes in the body; (2) a diminished secretion of free hydrochloric acid; (3) a diminished secretion of intestinal juices; (4) the increased consumption of proteid foods, especially meat. Another striking product of putrefaction is sulphurated hydrogen. It is of interest to know how it is formed. According to Herter a majority of the aerobic bacteria and most all of the anaerobic bacteria of the digestive tract are capable of producing sulphurated hydrogen from proteids under favorable conditions, these conditions being a low content of hydrochloric acid in the gastric juice and the absence of oxygen. The bacteria in the gastro-enteric tract produce a lot of free hydrogen in the nascent state. This hydrogen unites with oxygen to form water. It thus exerts a reducing effect on those compounds containing oxygen and so long as oxygen is present which can unite with the hydrogen the sulphates or sulphites remain in this form; but when all the available oxygen is used up, the continued production of nascent hydrogen leads to the union of the sulphites and sulphates with this hydrogen and sulphuretted hydrogen is formed. That the sulphurated hydrogen has a toxic effect on the body is readily suggested by its odor. It has an especial effect on the nervous system, starting a train of symptoms such as headache, dulness, giddiness, muscular tremor, prostration and even a fatal coma may be produced if a sufficient amount is absorbed either through the digestive tract or the lungs. Other less common forms of putrefaction give rise to the presence of cystogen in the urine, and is known as cystinuria. Another form is known as alkaptonuria.

There is a tradition among the laity (when I say laity I include many doctors who, as some one has recently said, would serve their brothers better by following the plow) that a torpid liver is a seat of many of their ills, especially that particular condition characterized by headache, malaise, coated tongue, a sallow complexion, giddiness and loss of appetite. But does the liver play a part in auto-intoxication, and to what extent? The liver is one of the emunctory organs of the body. It stops or arrests certain portions of our digested food and destroys many of the poisons. This is proved by the fact that blood from the portal vein is much more toxic than blood from the liver. But these poisons were not formed in the liver. The particular substance which it eliminates is the bile. But is bile toxic? Most of the bile is poured into the intestine and leaves the body with the feces; but part of it is absorbed by the blood. Does this part absorbed by the blood act as an intoxicant? Bousson concluded, after many experiments, that filtered bile is inoffensive, that unfiltered it kills. Bouchard says "that like all viscid liquids it can bring about pulmonary embolisms." Biliary salts do not kill by direct intoxication alone; they dissolve and break up blood-globules, also other cells, and intoxication arises from the setting free of toxic elements which enter into the composition of the cellular elements. Bile itself is capable of undergoing fermentation and putrefaction.

As to the treatment, two things must be kept in mind: (1) we are dealing with a bacterial invasion; (2) we are dealing with a digestive tract whose functional properties are either diminished or altered. Treatment must be directed toward the removal of these two pathologic conditions. Toxins in auto-intoxication come from four principal sources: (1) food; (2) bile; (3) putrefaction in the alimentary tract, and (4) the feces itself is toxic.

In the stomach, fermentation is best controlled by lavage and the withholding or restricting of starchy foods. In the intestines, where putrefaction is normal, the task is more difficult.

1. Attention must be given to the diet; the proteids should be restricted. We cannot stop them altogether for the healthy body requires a certain amount for normal consumption. The food should be clean. It makes a vast difference if a glass of milk contains 10,000 or 10,000,000 bacteria. Raw foods should be thoroughly washed. Fruits should have their outer covering removed. Rough foods should be avoided as they have an irritating effect on the bowel.

2. Visceral drainage should be prompt and thorough. By free catharsis the bacteria are most

easily removed from the intestinal tract. Constipation favors auto-intoxication by permitting increased absorption. To be sure the catharsis must not be too long continued or the patient will become weak from loss of food.

3. Intestinal antiseptics must be considered. Here a favorite field for discussion presents itself. The main point to be considered is. Are any of them efficient? I dare say that there is not a physician present but has tried all of them only to begin again his search for something more dependable. Among those most frequently used are salol, thymol, phenol, the sulphocarbolates, beta-naphthol, mercury, etc. The two which I most frequently use are salol, 5 gr., taken three or four times a day and a combination of podophyllin, 1/960 gr.; calomel, 1/16 gr.; guaiacol carbonate, ¼ gr.; menthol, 1/16, and eucalyptus sufficient to form a tablet. This is the so-called Woodbridge tablet No. 2. But I am inclined to believe that calomel alone is one of the best intestinal antiseptics in the whole drug list. One trouble with all of them is that they form new chemical combinations before they have far advanced in the digestive tube and lose all or a great part of their antiseptic properties.

Extract from *American Journal of the Medical Sciences*, November, 1909:

NORMAL CASES

The greatest reduction in the bacterial content was observed by means of diet alone by the aid of a liquid diet consisting mainly of fermented milk. This reduction averaged 16 per cent., and with a Smidt diet 13.7 per cent. Beta-naphthol reduced the organism 9.9 per cent., whereas bismuth salicylate reduced them 8.8 per cent. Aspirin made an average reduction of 4.6 per cent, ichthalbin 4.2 per cent., while salol did not effect any reduction.

In individuals affected with gastro-intestinal disturbances, the results are rather conflicting. In a case of intestinal catarrh neither salicylate of bismuth or thiecol reduced the bacteria to any degree, while ichthalbin reduced them only 7.2 per cent. In another instance, a case of chronic colitis, bichlorid of mercury reduced the bacteria 7.1 per cent.: they are not influenced by the use of salol; and a slight increase was observed after the use of bismuth salicylate. In a third instance a case of marked hyperacidity with intestinal catarrh a very marked reduction was observed under a restricted semi-solid diet, a reduction of 18 per cent., whereas no reduction was effected with salol, aspirin or thymol, which clearly indicates that we cannot assume that the action of the so-called antiseptic drugs is the same in diseases of the gastro-intestinal tract as in normal individuals. From these observations we believe we are justified in concluding:

1. Regulation of diet, together with the evacuation of the bowel is the most effectual method we have at hand of reducing the excessively high content of the intestine.

2. Beta-naphthol and bismuth salicylate appear to be our most effectual intestinal antiseptic drugs in normal individuals, while aspirin and ichthalbin effect slight reduction and salol gives no results whatever.

3. The results produced by means of intestinal antiseptics in patients suffering with gastro-intestinal disturbances, do not seem to be marked, whereas the best results are obtained by regulation of the diet.—From paper by Drs. J. Fredenwald and F. Leitz.

SOME SUGGESTIONS IN CARDIAC THERAPY *

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In presenting the subject of cardiac therapy, my only intention is to discuss a few of the indications and methods of treatment, bearing largely on the practical, rather than entering into an extensive or theoretical consideration of any special line of treatment. To conduct properly the management and treatment of a patient suffering with an organic disease of the heart, requires a good knowledge of physiology, accurate physical diagnosis, intelligent use of a very few drugs, and enough courage and optimism to make one a sane and safe psychotherapist.

One cannot well overestimate the psychologic value of a correct diagnosis, in both organic and so-called functional cardiac disorders. In cases where the heart may be so hopelessly affected with an organic lesion, to be able, after a careful study of the history of a case, concluded by a thorough and complete physical examination, to say to a patient, with candor and emphasis, that, although he is suffering from an incurable and possibly slowly progressive ailment he need have no fears of a sudden death, and that to a very great degree he himself controls his own future health and happiness, will alone fulfil all the requirements of treatment. By this means one can easily establish a most pleasant relationship

* Read before the Twelfth District (Indiana) Medical Society, at Fort Wayne, Nov. 15, 1910.

with a frequently much dreaded patient, and will often be able to obtain a satisfactory result with few or no drugs. To be able to make a correct and finished diagnosis and deliver an opinion with tact, force and frankness is half of the battle in the management, both therapeutically or otherwise of a difficult heart case. If not first in importance in the treatment of heart disease, optimism is an invaluable agent for good, and its value here is surpassed only by its value in the treatment of neurasthenia.

That some of our cardiac patients will succumb regardless of every effort we all are aware, but the number who expire suddenly, or from their first attack of broken compensation are comparatively few, and their suffering and influence on the happiness of the home is insignificant when compared with the great number of the chronic, semi-invalids who are constantly requiring and seeking medical attention.

Nothing can possibly be of greater annoyance to a busy practitioner than an educated cardiasthenic, trained to a nicety in observing all the signs and symptoms predisposing to an attack and using information he has gathered from his extensive experience with various physicians, but such information as he illy understands. He is usually supplied and familiar with the indications and actions of standard heart remedies. There are many patients who at one time have had some acute illness with cardiac symptoms, or complications, often only temporary, from which they have entirely recovered, and all they need from their medical attendant is a strong, thorough sympathetic talk.

Patients who have suffered cardiac symptoms and who of necessity had, at times, much attention in the way of examination or treatment directed to their hearts, are very much predisposed to become cardiasthenic. When such a state follows closely an acute infectious disease, or when there are present mild and indefinite symptoms of chronic cardiac disorder, the possibilities of a mistake on the part of the medical attendant are often great enough to require unusual courage for him to insist that his patient is in no danger, yet such an attitude is frequently absolutely necessary. The following illustrates this: a young married woman of nervous temperament suffered an attack of inflammatory rheumatism of short duration. She had what appeared to be at the time a mitral valve involvement, the possibilities of which had been discussed and greatly magnified by both the physician and the entire family. As a consequence, she developed pains in her heart, became fearful of sudden death, could not sleep, refused for weeks to leave her bed, grew quite stout, had a pulse perfectly regular, not rapid and of good quality. The apex was quite normal in position and there was a good first sound, the bugbear being only an insignificant systolic murmur at the apex. It required great effort and force of argument to convince this patient that her condition was not a precarious one, and would not likely in any way affect her future health. After being convinced of this fact, all her subjective symptoms disappeared and she has since enjoyed symptomatically good health.

In another case, a young physician suffered an acute myocarditis following an attack of influenza. The cardiac mischief was not evident at the time, or at least not recognized during his acute illness. Two weeks later, after he was exposed to a cold wind while hurriedly walking to the railroad station carrying a heavy valise he was seized with vertigo, some dyspnea, and great fright. The genuineness of his trouble was evidenced by the subsequent slight edema of his feet, some arrhythmia, and traces of albumin in his urine. He was put to bed for four weeks. When the heart had seemingly regained its normal size and the pulse was of good quality, he continued to have attacks of dyspnea regardless of exercise, food, or time of day. For another month he was kept quietly in the house and allowed to do light reading, as it was apparent he was inclined to become more or less neurasthenic. He continued to worry, and after some months went away on a trip for his health, and in the rounds finished his education of introspection by a six weeks' stay in a sanatorium. He returned about one year after his first attack, very sad and depressed, his mind enslaved with the thought of chronic invalidism and sudden death. As far as the physical picture revealed, his heart seemed to be in perfect condition, and the various functional tests showed it to possess splendid reserve strength. The field was clouded a little by a rather high blood-pressure but his arteries were soft and straight, his skin active and his urine normal. He was 34 years of age with a splendid family history and perfect personal habits. It seemed that he was unduly alarmed and his trouble was more psychic than circulatory. He was urged to take up work. Although this was five years ago, he has since been engaged in the hardest kind of practice, and has enjoyed perfect health, with a blood-pressure practically unchanged. To be sure such a case may have a premature echo but why wait with such signs of safety, in anticipation of a possibility that may never appear?

Another miserable and educated cardiasthenic frequently encountered is the man who is advised to carry one or more of the known remedies for an emergency. One poor fellow, five years ago, suffered from an irregular heart action of the extra-systolic type which, from the character of the first sound, was probably due to a myocardial lesion. Since his examination by a noted specialist in the east he makes it a business every night to arrange on a table at his bedside a solution of morphin in a large mouthed bottle, so that it may be quickly reached, and in another a 20 per cent. solution of camphor in sterile oil. A hypodermic syringe with needle attached and a small metal box filled with pads of absorbent lint saturated in alcohol complete his equipment. All this preparation, which was made in anticipation of a terminal attack, was first suggested by his examining physician and carried out because of his morbid fear. The whole was an outgrowth of an experience he had some months previously when after an unusually big dinner, including wine and several cigars, he was awakened during the night by an attack of dyspnea.

These reports may seem irrelevant to the subject, but are quoted in the hope of emphasizing the importance of optimism in the management of even organic cardiac conditions, and as evidence of the difficulty at times in correctly prognozing a given case, and also to suggest the need of the greatest care as to what one may say to this class of patients. Allay their anxiety with an intelligent and forceful explanation of their condition, make them understand the safety and good results they are to expect if they only do their part, as to diet, rest and good habits of hygiene, all of which will accomplish more than drug therapy alone.

While quite the opposite practice is the rule, yet nothing can be a more sad commentary on the practice of medicine than to allow a patient to remain in bed for weeks or months after an attack of mild or distressing heart symptoms, often with one or more medical attendants, trained nurses constantly at the bedside, carefully recording the pulse, temperature and respiration, and attaching great importance to, as well as explaining the action of each remedy, thus creating a most anxious attention on the part of the patient as to each article of food taken, and keeping not only the patient, but the whole family in the hideous gloom of a death-chamber. Such a patient needs only encouragement in food, exercise, and plenty of good cheer with a mind free from anxiety. Without any attempt at scientific or detailed discussion of rest and exercise, in the treatment of heart diseases, one should only prescribe either for a definite purpose, and then only after a careful study of the condition to be corrected and the results to be obtained. Both rest and exercise at times, when properly employed, are of inestimable value, yet both, if extreme, or illy advised, are capable of doing great harm. Broadly, exercise should never exceed more than a wholesome tire; it should never amount to exhaustion. Unusual increase in the rate or irregularity of the heart action, or dyspnea, should contra-indicate further efforts, regardless of the apparent need for exercise. To put a cardiopath to bed on general principles, or because of an exaggerated fear not founded on well-established facts, usually does harm to the physical condition generally and creates an introspective frame of mind that is certain to result ultimately in injury. Rest thus prescribed is like opening the abdomen of a neurasthenic in whom no definite pathologic lesion has been diagnosed, or for no specific object. Rest must be for a definite purpose and must be stopped when this object has been obtained. The greatest difficulty is to secure absolute rest in bed without exciting on the part of the patient either fear, doubt or depression.

In acute diseases or acute exacerbation in the chronic ones, rest must be so complete that lying in bed is often not alone sufficient, but some sedative drug, as morphin, can be used to a splendid advantage in securing the desired results. Certain patients with great edema and distressing dyspnea will insist they cannot possibly go to bed on account of difficult breathing. Never compromise and permit the use of a couch or the proverbial "easy-chair" but put them on the bed. If they cannot lie down, cautiously use a sedative drug until the recumbent position is possible, remembering that in many cases the recumbent position is the best heart tonic we have, and by the recumbent position alone one can often promptly fulfil all the therapeutic indications. Not infrequently do we see the whole object of rest defeated by simply allowing the patient to go to the toilet or sit up for his meals: trivial things, but very vital to success. In extreme and especially acute cardiac dilatation, the rest must be both continuous and absolute. As the heart condition improves, gradually but cautiously raise the restraint. The manner in which this can be best and most safely done is by not allowing the patient the privilege of getting up and down or leaving the bed. This often taxes a weak heart to the failing point, as is shown by the number of sudden deaths when patients are changing their positions. Artificial exercise, ranging from

the most gentle massage to restive movements, can usually be graded to the point of efficiency, and still keep well within the bounds of safety. When a patient suffering from a great myocardial weakness has been kept quiet in bed for a length of time, the blood naturally retreats to the larger sinuses and splanchnic vessels and to a degree the weakened myocardium adjusts itself to this condition. Sudden changes from the recumbent position to the upright, or extreme active or passive exercise may bring the mass of residual blood suddenly back into the arterial circulation and increase the intracardiac pressure to a degree of great danger. No form of massage treatment or graded exercise of any kind should be used without observing the effect on both the pulse-rate and quality. This observation should be made by one experienced and competent to judge the character of the pulse. The best results from massage and light exercise are obtained in subjects with relatively low blood-pressure, usually because of the emptiness of the arterial vessels. As rest has for its object the relief of an overstrained heart, allowing it to more nearly regain its normal size and function, so exercise has for its purpose the restoring, as early and safely as possible, the arterial tension and the improvement of the nutrition of the cardiac muscle by a better filling of the coronary vessels. While rest is of such great value in the treatment of certain cardiac disorders, one should not be unmindful of the fact that patients past middle life are not unlike those with beginning malignant disease and do not do so well when put to bed for too long a time, as their whole physical forces seem to rapidly wane and go to pieces.

One should never become a "faddist," with ironclad rules as to either rest or exercise in the management of subjects with cardiac diseases. Each patient is in some of the finer details and requirements distinctly individual, and the successful outcome of a case will in a great measure depend on the physician's ability to correctly interpret the requirements and susceptibilities of each. Experience and practice have taught us that in all forms of exercise, ranging from massage to mountain climbing, the tendency out of an anxiety to accomplish the greatest results in the shortest time is always to overdo.

The dangers of acute cardiac troubles are greatly minimized and the secondary mischief much longer delayed by immediate and properly prescribed rest. With certain types of chronic myocarditis—those with local lesions—rest to the heart muscle must be prolonged so that the reserve cardiac power may be used to the best advantage and the best compensation possible be reestablished. Again, with patients predisposed to fatty degeneration of the myocardium or primary myocardial changes due to a generally lowered blood-pressure caused by the want of fresh air or disturbed vasomotor tone, graded exercises produce results often quite beyond our expectation.

In considering the drug therapy of cardiac disorders I do not wish to enter into a discussion of the technical theories of drug action. Already so much experimental and theoretic data have been furnished the active practicing physician as to make him at times feel much doubt and uncertainty in his own judgment of either drug selection or drug application. That much good has come and will continue to come from the finer theories of drug action, no one doubts; but the family physician hobnobbing with all the new drugs, their actions and indications for use, not only hazards the health but the life of his patient. He is apt to fail in making intelligent bedside observations which, after all, are the life and moving force in both practical and scientific medicine. It would be much better to allow the numerous and well-equipped laboratories, supplied with experienced observers, to prove the worth and practicability of new drugs and new methods of application and then allow this information to sift down to us through reputable hospitals which, with their large opportunities and well-trained assistants, would doubtless save many a mistake; for drug therapy is not unlike doing a major operation, requiring a close familiarity with the practical technic rather than a mere knowledge of the theory.

Digitalis in the treatment of cardiac cases has been in rational use for more than a hundred years and long before as a family nostrum for the treatment of "dropsy." By too closely studying the theories of the action of digitalis in influencing the fundamental functions of the heart muscles and the nerve control, the family practitioner becomes so hopelessly bewildered that he fails to obtain the good results from his drug application that he would secure if he should confine his observation to the more commonplace signs and clinical symptoms.

A small, rapid, irregular pulse, not the immediate result of or accompanying an acute infectious disease, is a demand, speaking broadly, for the use of digitalis, regardless of the lesion causing the myocardial weakness. It is quite enough to know that the chief action of digitalis on the heart is to increase its tone and power of contraction, and that it may do so requires at least some healthy heart muscle, possessing reserve power, which may be called on for the emergency.

The very best results are obtained where the heart muscle is dilated, but comparatively free from the influence of acute toxins, and possessing enough reserve power to respond to the artificial stimulus. This state, to a degree, can be determined by the size and shape of the heart, together with the pulse-rate and quality of the first heart-sound.

One should not be too anxious about the constricting influence of digitalis on the peripheral arteries, an action, which in clinical medicine is far from being fully understood. The arteries are only a prolongation of the heart, composed, in part, of the same kind of tissue, and subject largely to the same tonic influence. The greater amount of muscular tissue in the heart wall, especially in the left ventricle, the better is the physiologic balance preserved, and the possible therapeutic results. Occasionally the best heart tonic one can use is a drug that dilates the peripheral arteries and capillaries. Again, equally as good tonic effect can be had by restoring the blood, latent in the venous system, or stagnant in the peripheral capillaries, back into the arterial tree and by so doing bring the intercardiac pressure up to the physiologic standard or requirements necessary to combat the existing pathologic condition.

Subjects with sclerosis of the peripheral arteries are frequently not benefited by the use of digitalis, as lesions are generally found in the heart muscle. Patients with this condition may suffer extreme dilatation, as shown by both clinical symptoms and physical signs, but still possess healthy muscular fibers, showing enough reserve power to be most favorably influenced by digitalis. The administration of digitalis as a heart tonic in this condition of sclerosis calls for greater care and closer observation for the reason first, that the heart may not be favorably influenced by its action and secondly that the power of elimination, in such patients, is often much below normal, and drug accumulation and toxic symptoms, which frequently so closely resemble those of the myocardial disorder, may suddenly and unexpectedly appear.

It is a well established fact that digitalis should not be given in acute cardiac dilatation with failure, when such a condition is the immediate result of an acute infectious disease. It is positively injurious for the reason that the heart muscle is already overcome by the toxins of the infectious disease, and the administration of digitalis simply means the addition of another poison to the heart muscle. Such a heart needs rest and often the best results in these cases are obtained by the additional use of an opiate. The use of bromid, chloral or other depressing remedies, to quiet the nervousness which is frequently present, is most dangerous. The application of the ice bag properly fitted over the pericardium, the encouragement of free elimination, and attention to the disease exciting the mischief, will meet all the requirements. High blood-pressure does not contra-indicate the use of digitalis when the right heart begins to fail. Under such conditions digitalis should be used, regardless of the blood-pressure or evidence of sclerosis found in the peripheral vessels.

The best therapeutic results from digitalis are to be expected when edema is the chief secondary sign. Chronic valve lesions when the break in compensation is more apt to represent a true mechanical condition, with the heart muscle in comparative health, but simply overworked, represent the ideal pathologic condition for prompt and favorable results. No definite form of valve lesion alone should suggest the use of digitalis. Its intelligent application must be based on the physical condition of the heart and the secondary manifestations. If a given patient is responding favorably to the use of digitalis, evidence will soon be shown in the rate and character of the pulse, much the same as with massage treatment.

The urinary output should be carefully observed and known before the administration of digitalis begins, as an early increase in the amount of urine is the guide and an evidence that the best therapeutic action is to follow.

Few conditions offer such favorable opportunities for drug therapy as the different states and stages of cardiac diseases. In the use of digitalis, one should keep in mind at least three things, if the best results are to be obtained. First, the preparation of the drug to be used; second, the method and time of administration; and third, the preparation of the patient. To begin treatment of great dilation, with edema present, by the administration of digitalis, without first putting the patient to bed, may not only prove a failure, but be actually dangerous. With patients in such a condition, rest alone will at times prove a better heart tonic and more efficient diuretic than when digitalis represents the only effort. Again, in a water-logged patient with marked gastric congestion from portal stasis and more or less urinary suppression, the lead in treatment should not be with large doses of digitalis administered by the mouth, as it usually only excites, or greatly aggravates an already present nausea. Under such circumstances an idiosyncrasy is apt to be declared present and a good remedy is abandoned for one of much less efficiency. Too frequently the more crude,

though better preparation of the drug, gives way to the less nauseous but less reliable alkaloid. There are two reasons for the unpopularity of digitalis in the treatment of cardiac failure. Myocardial failure is a condition which should be looked on as a physical or an impaired mechanical state, and the secondary disturbances as further evidence of an unbalanced mechanical movement, but a state which may still be within reach of drug influence.

There are other and safer means of relieving an overstrained heart. In one case, a very nervous woman, suffering from valve insufficiency with extreme edema, had failed to respond to all heart tonics, purges or diuretics, when a single dose of morphin, administered hypodermically, gave a few hours' refreshing sleep and started diuresis which soon cleared the whole clinical field. In another, a woman with rather an acute cardiac dilatation with extreme edema of the legs and thighs, had been on large doses of digitalis for more than a week without results. A single mercurial and saline purge started a most active diuresis and brought prompt and complete relief from the edema in less than forty-eight hours. There must have been a different exciting cause in each case to maintain such a disturbed condition of the circulation, and while digitalis was symptomatically indicated, therapeutically it was wholly without effect. In the subsequent care of either patient one would not doubt the influence of digitalis in furthering a cure, but as an entering wedge, when used alone, it was entirely without results.

In this class of patients if the use of digitalis be crowded too far, it will undoubtedly contribute no small part to the list of sudden deaths. Nothing can be more disappointing than the administration by mouth of digitalis to a patient suffering from nausea and gastric catarrh, due to insufficient action of the heart. Myocardial failure is often most insidious in its onset and presents anomalous symptoms, and gastric disturbance is frequently the first and only evidence of the cardiac insufficiency. Here digitalis is clearly indicated and, when properly administered, will prove the most useful. The condition which confronts one is much like that in the crisis of pneumonia when the stomach action is slow and doubtful. If one wants to place this drug in definite amounts and straight to the point, only hypodermic methods of administration should be considered. Here again the temptation is to transgress a well-established therapeutic law and use the various alkaloids or glucosids of digitalis, which are far from being satisfactory substitutes for the crude preparations. However attractively the manufacturing pharmacist may prepare them, no odds how well proved by laboratory theories, or how great the claims for their physiologic action and therapeutic value, when the crucial test of clinical experience is applied, the fact is made more apparent than ever that at least they are not always reliable or efficient agents. No doubt many a life needlessly slips away while one in practice is dickering with a theory or an experiment.

For hypodermic use digitalone is, in my own experience, the most reliable and efficient preparation. Strophanthus, though weaker in cardiac units, acts more promptly, is less nauseating and exerts no vasoconstricting influence. I might add that it is less efficient as a heart tonic though at times a fair substitute.

Camphor, caffein and nitroglycerin, each occasionally have their time and place. Camphor hypodermically or by rectum in acute myocardial failure is often a most prompt and reliable cardiac stimulant. Caffein at times may serve a good purpose in testing out the renal capacity or maintaining the circulatory balance while resting a patient from the use of digitalis. Nitroglycerin only acts as a heart tonic when there is present high blood-pressure, the result of chronic peripheral contraction, due either to central vasomotor stimulation or the irritation of circulating toxins. Nitroglycerin has practically no influence in conditions of capillary fibrosis and should never be given as a heart tonic in acute infectious diseases when the vasomotor tone is unusually low. Cardiac failure in pneumonia represents a typical condition in which the administration of nitroglycerin is neither rational nor safe.

Occasionally cardiac sclerosis, with high blood-pressure and chronic valvular endocarditis, is present in the same subject showing signs of cardiac failure. While the good effect of digitalis is uncertain in such a patient, one should not hesitate in its use when failure of the right heart is present, but in such conditions the combination of nitroglycerin with digitalis is likely to prove a great safeguard and give better results.

For strength and reliability the average tablet of nitroglycerin as dispensed proved quite useless and is often wholly without physiologic or therapeutic influence. An alcoholic solution is a better and more reliable preparation. The diet of a cardiac patient constitutes no small or unimportant a part of their treatment. Stomachs containing undigested food and gas have been

the exciting cause of many sudden deaths. The possibility is much greater in those who carry a large amount of abdominal fat which is in itself a frequent cause or accompaniment rather of myocardial degeneration.

Just why the severer forms of cardiac dyspnea should so frequently occur at night is in part explained by the recumbent position allowing the stomach to press more firmly against the diaphragm. Mild exercise causes a better peristalsis and keeps the stomach comparatively free from gas. Patients suffering from a weak heart action or who have suffered breaks in compensation should distinctly understand that their habits, both as to time and amount of food taken, should be regular. In one patient this danger was well illustrated. A man with chronic mitral valve lesion and failing compensation, in the course of two years, I visited in emergencies on six different occasions. He finally passed away in one of these so-called "spells" on Sunday night. On looking over my reports I found that out of the six visits four had been on Sunday night. It was utterly impossible to regulate the habits of diet of this patient on Sunday. His week-day meals were regular; he dined at 12 o'clock and took a light supper; but on Sunday it was the family's custom to have a chicken dinner at 3 in the afternoon. His attacks previous to the one causing his death were usually of short duration. Filling as he did a clerical position, he lost little time from his work and no doubt if his habits of Sunday eating could have been regulated he might have lived several years.

The diet of cardiac subjects should meet their requirements of nutrition, but should be light and free from articles that tend readily to fermentation. It should not leave too heavy a residue, though it should not be too concentrated. The evening meal more than all the others should be light. Patients suffering with myocardial disorders should be taught to retire with a stomach satisfied, though as nearly empty as possible.

PRESENT TREND OF OPERATIVE OBSTETRICS *

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In taking up for consideration the subject of operative obstetrics, we realize the impossibility of dealing exhaustively with all of the phases of such a comprehensive matter. We shall attempt, therefore, to indicate some of the greater tendencies of the operative work at the present time and to emphasize the reasons for the same.

Not many years since the obstetrician was content to save the life of a puerpera when conditions presented themselves, threatening either or both of the lives entrusted to his care. Now we are coming to believe that fewer infants should be sacrificed regardless of the complications which arise in labor. In considering operative surgery, technic, ease of performance, accompanying injuries, immediate and late after-effects, morbidity and mortality must be taken into account in order to make rational and helpful deductions as to the merits of various methods of procedure. After these are carefully weighed, the choice is not to be made in any given case without due consideration of the surroundings and the amount and kind of assistance at hand.

This consideration usually resolves itself into the duplex question of "home or hospital, general practitioner or obstetric surgeon." A careful study of the physiology of labor and wide experience has shown the wonderful range of possibility of the resources of nature in many cases with seeming impossibility of delivery. In the earlier history of the art of obstetric practice we find the work in the hands of women who, when such conditions arose—or, more accurately speaking, when they recognized the need—summoned a surgeon. The practice and knowledge of midwifery has been wholly developed by the work of renowned surgeons. Modern practice is now—in our own land at any rate—in the hands of physicians and is thus much improved. The object of this paper is to call the attention of the general profession to the essentially surgical nature of childbirth under given conditions. Operative interference in midwifery becomes necessary only in conditions which render delivery imperative at a time when naturally impossible. These conditions are:

1. Obstruction due to the soft parts of the canal: (a) acute abnormal conditions threatening the mother or child or both, in which the obstruction is the normal incompletely dilated birth canal; (b) abnormalities of the soft parts.

2. Obstruction by abnormalities of the bony canal. Recent advances have been greater in the treatment of the former than of the latter conditions. For example, we shall cite two of the most formidable and dangerous conditions which arise in pregnancy or labor threatening the mother.

1. Eclampsia. In spite of the many theories in regard to the nature and cause of this condition, the consensus of opinion of the most prac-

* Read at the Fort Wayne meeting of the Indiana State Medical Society, Sept. 30, 1910.

tical men of to-day is that the uterus must be completely emptied—emptied not merely of the fetus but also of the placenta and membranes (i. e., the entire products of conception), the placenta being considered a fruitful source of toxins in this disease. In multiparæ any one of the usual methods of dilatation may suffice, followed by version and extraction. These latter are, of course, applicable also in primiparæ when the internal os of the cervix is effaced, supplemented by an episiotomy of the undilated vagina and vulva. In a primipara with only slight dilatation delivery may now be accomplished in ten to twenty minutes by the vaginal Cesarean section. The vaginal hysterotomy is, however, an operation to be undertaken only by an operator experienced in pelvic surgery.

The older method of narcotic control of convulsions and awaiting eventual slow dilatation is markedly losing ground in favor of the more radical and markedly more effective surgical treatment.

2. Placenta prævia. Not a great many years ago the tamponade was depended on for the control of hemorrhage in this dangerous condition. Then came the vast improvement on that expedient, namely, Braxton Hicks' version. (Here let me emphasize that this should rarely be followed by immediate extraction with its dangers, but rather use the thigh and breech as a plug to control the bleeding.) With this treatment the mortality of the mother was about 6 per cent. and that of the child nearly 75 per cent. In an attempt to reduce this fetal mortality the treatment by means of rupturing the membranes and introducing a rubber bag between the head of the child and placenta was recommended. Statistics from reliable sources would indicate that the fetal mortality was reduced to about 18 per cent. by this method while that of the mother remained about the same. At present there is a considerable tendency toward Cesarean section especially in the central variety of the condition with an undilated resisting cervix. Vaginal Cesarean section is done by some in those marginal cases in which the placenta is resting on the posterior cervical wall.

Obstructions caused by abnormalities of the cervix rendering dilatation impossible, such as new growths, tuberculosis, old scars, etc., are being overcome by vaginal hysterotomy (Cesarean section). Perhaps the present position of the best authorities on the subject of vaginal Cesarean section can well be expressed in the words of Dr. Peterson who gives the indications as follows:

1. Abnormalities as above cited.

2. Dangers to the mother when the cervix is unyielding.

3. Dangers to the child when the cervix is unyielding.

Concerning this latter condition he insists that craniotomy is no longer a justifiable operation and predicts that vaginal section will become the operation of choice in the treatment of prolapse of the cord, weak heart from delayed labor and allied conditions, where quick delivery is prevented by a resisting cervix.

Having briefly considered obstruction due to the soft parts, we shall now turn our attention to obstruction by abnormalities of the bony birth canal.

A recent monograph by Baisch has taken up the question of statistics from the large European clinics for comparison of results following the different methods of treatment by the respective clinicians. He points out the fallacies found in most reports as given and shows that the most accurate method of comparison is by dividing the reports into two groups, as to whether the clinician uses:

1. Prophylactic therapy (active): (a) premature delivery; (b) prophylactic version; (c) high forceps.

2. Expectant therapy: (awaiting spontaneous delivery), supplemented by (a) Cesarean section; (b) pelvic section.

A reason for high forceps being included among the prophylactic procedures and Cesarean section being given as a supplement to expectancy is not just clear excepting that they are more used in the clinics following these respective methods, for high forceps is essentially a supplementary operation and Cesarean section almost as essentially prophylactic.

He pertinently cites the following objections to the active or prophylactic procedure:

1. In contracted pelvis of moderate degree it is impossible to say weeks before term whether or not spontaneous birth may occur.

2. It is also as impossible to say when labor has begun whether the child can be born in the vertex position or not, so that a relative Cesarean section, pelvic section or perforation of the living child would only become necessary in some of these cases, all of which would have been subjected to prophylactic operations.

We see, therefore, that the operations in Group 1 (prophylactic therapy) are not to be compared statistically with operations in Group 2 (expectant therapy) but rather a series of cases treated expectantly and followed when necessary by the

operations of Group 2 must be compared with a like series treated in the manner of Group 1. For example, we say the Cesarean section and pelvic section have a mortality of 2 per cent. to 5 per cent. and premature delivery a mortality of considerably less than 1 per cent. We readily see that this is not a fair comparison for the reason that in the series in which Cesarean or pelvic section only become necessary in, say, one-fourth of the cases, the other three-fourths having been spontaneously delivered, would cut down the mortality of the series to even less than that of the series in which premature delivery was done.

For convenience of comparison we shall average the results of the clinicians pursuing these different methods, as follows: (a) the expectant method; (b) the active method combined with Cesarean and pelvic operations; (c) the absolutely active method.

AVERAGE RESULTS OF CLINICS EMPLOYING

	Per cent.
1. *Expectant Therapy*—	
Maternal mortality	1
Infant mortality	7
Prophylactic operations	3.1
Total operations	21
2. *Modified Prophylactic Therapy*—	
Maternal mortality	2
Infant mortality	13
Prophylactic operations	11
Total operations	36
3. *Active Prophylactic Therapy*—	
Maternal mortality	3
Infant mortality	18
Prophylactic operations	18
Total operations	54

(a) a mortality for the child of 7 per cent.
(b) a mortality for the child of 13 per cent.
(c) a mortality for the child of 20 per cent.
For the mother,
(a) less than 1 per cent.
(b) less than 2 per cent.
(c) less than 3 per cent.

It is only necessary in concluding a discussion of this table to point out that the mortality of the child has increased in direct proportion as prophylactic operations have been done and that the maternal mortality has also very markedly increased. These results I believe to be the greatest possible argument for skill in diagnosis and prognosis on the part of the physician conducting a confinement and also for placing his patient under the most favorable surgical environment when conditions demand intervention.

In a paper of this scope it will be impossible to take up at any great length a discussion of the different operations employed, so that I shall content myself with what I believe to be a few pertinent notes on the different operations, merely as matters of contrast or comparison as the case may be.

Premature Labor.—This operation is uncertain for the child as well as for the mother and is believed to be indicated only in multiparæ with moderate contraction in whom previous labors have been unsuccessful at term, most authorities agreeing that the operation is dangerous and uncertain in primiparæ.

Prophylactic Version.—the mortality for the child in normal breech cases is generally well understood. This mortality is naturally increased in proportion to the resistance offered by a contracted pelvis. In primiparæ we hardly believe the operation would be considered, although it must be conceded a field of usefulness in multiparæ whose previous labor would indicate it.

Perforation of the Living Child.—This operation will in the future be almost wholly limited to the general practitioner who is depending on Nature, premature labor, the forceps, or prophylactic version. These failing, he must resort to perforation.

DeLee, discussing a paper by Meisner on this subject, remarks: "The general practitioner must learn to recognize mechanical disproportion between the child and the pelvis either before or during labor and must not make Herculean attempts with the forceps but investigate the cause of non-success in delivery and have a life-saving operation done before the child is mutilated and the mother damaged, so that craniotomy remains the only alternative." When, however, no surgeon is at hand, forceps have failed and the mother's condition demands delivery, the child's chances are so encroached on that only the choice of slow death by further attempts of Nature or by perforation remains, evidently an immaterial choice for the child and a very important one for the mother.

Burger has pointed out that forty-five out of ninety-six living children sacrificed by craniotomy in Schauta's clinic could have been saved by pelvic operation.

Pelvic Section.—Williams in discussing the operation concludes "that pelvic section should replace the high forceps, prophylactic version, premature labor, and craniotomy on the living child when the woman is not infected" (i. e., in properly conducted cases). This is in accord with the vast number of European authorities who practice the expectant or conservative method of treatment.

Many authorities are at present advising the expediency of allowing labor to continue its

course rather than to perform an immediate delivery after the operation, where the condition of the mother justifies such conservatism.

Kroemer states that the greatest danger in the operation is through the rapid passage of the head and says rapid delivery should only be performed when such conditions as threatened asphyxia of the fetus, threatened rupture of the uterus, infection, eclampsia, etc., demand it.

Schlafli has tabulated the results of 664 cases with a resulting maternal mortality of 5 per cent. (4.96 per cent.) and death of 9.6 per cent. of the children. Morbidity was 31 per cent. and continued incontinence of the urine occurred in 4.7 per cent. of the cases.

With the Doederlein technic, however, much improvement on these results has been achieved and many operators have done from ten to fifteen cases with good results and without maternal mortality. This is a comparatively new operation and yet to be weighed in the balance of clinical trial. We believe, however, that, with the improved technic, in selected cases and awaiting spontaneous delivery afterward, the results will be very favorable.

Cesarean Section.—The mortality of this operation in selected or well conducted cases is from 1 to 3 per cent. This will naturally be greatly increased in cases which have undergone hours of labor after rupture of the membranes and which have been examined repeatedly under such conditions. Practically all surgeons consider these contra-indications to the operation which, of course, means that cases in which the Cesarean may probably become necessary, should be under careful supervision before labor or at least early in the first stage of labor. With the increased clinical facilities, as to convenience, of hospitals and of well-equipped surgeons, this operation is greatly encroaching on the field of the older methods of prophylactic activity.

High Forceps.—Different statistics on this operation vary markedly because of the varying conceptions of the meaning of the term. If the term be applied only to cases of a floating, non-engaged and unmoulded head, we shall find the results far different from those where the engaged and moulded head are included under the term. In the former condition the mortality of the child is much above 50 per cent. and of the mother as great or greater than 3 per cent. Thus we see that the mother's chances are no better, if as good, as in Cesarean or pelvic section, and are far worse than in perforation, the child's chances being only slightly better than in the latter operation. In this connection DeLee says that "high forceps constitutes the conscience operation before perforation" and I believe as such it should be considerably more tentatively used.

Conclusions.—As yet there is not enough reported experience with the pelvic operation and the newer methods of Cesarean section for us to lay down concise rules for their use in the conduct of cases. They are certainly encroaching greatly on the so-called prophylactic operations and perforation of the living child.

We believe that the superiority of the expectant method of treatment in pelvic contractions is clearly established and that this method will practically eliminate perforation of the living child and markedly reduce prophylactic measures which, though intended to prevent the dangers incident to labor, really carry with them greater dangers than labor itself. Sane conservatism should reduce surgical interference to a position of last resort under pressing indications. In the light of development it would seem that the older prophylactic measures (version and induction of labor) belong to a time in which, because of a lack of proper technical development, more truly surgical procedures could not be resorted to, and in the present time must naturally be greatly encroached on by the latter.

It is clear, therefore, that the statistical difference shown depends largely on having an experienced operator and a favorable environment for all cases which may require interference. In the hands of the general practitioner the older methods must necessarily continue to answer in spite of the fact that many more lives of infants, and perhaps also of mothers, will thus be sacrificed. Finally, then, may we venture to believe that the tendency at the present time is toward rational conservatism on the part of the attending physician with eventual surgical interference when—and only when—indicated, conditions permit, and an expert operator is available.

The demand for good maternity hospital service and well-equipped consultants in operative obstetrics is thus clearly emphasized.

To those of the profession accustomed to speak of the practice of obstetrics as "watching a hole," the recent marked development of the art must be a great surprise, while to those who—in consequence of zealously conducted demonstrations in obstetrical surgery on the manikin—have come to view the field as one comprehended by the sole question of "version or forceps?" let us hope it may have been a *revelation*.

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EDITORIALS

THE WORK OF THE LEGISLATURE

The recent session of the Indiana state legislature has been a notable one in many respects. The governor presented a new constitution for adoption, the ever recurring temperance agitation was up for consideration and legislative action, there were the usual number of bills calling for the expenditure of large sums of money, and several "freak" bills were introduced. To some of us who have watched the work of the legislature throughout the sixty days' session it has seemed that the majority of the Indiana statesmen have been most interested in passing bills to raise their own salaries or the salaries of friends, and in putting into effect legislation which will meet the approval of the distilling and brewing interests. But while much time has been wasted in needless wrangling over appropriations and bills fathered by the brewing interests, and very many worthy bills which should have been considered and enacted as laws went down to defeat or died in the hands of committees, a few good measures went through and have received the approval of the governor. Among these were several bills of particular interest to the medical profession.

The bill for the acceptance of the Dr. Long gift of $200,000 for a state hospital in connection with the Indiana University School of Medicine, and appropriating $25,000 a year for maintenance, is a measure which will result in great good, and is of especial value to the medical department of the university which is sadly in need of hospital and clinical facilities. The bill regulating the sale of cocain and other poisonous drugs was justified, and will put a stop to the practice of supplying narcotics to those who are addicted to the use of such drugs. Two very important bills which received legislative approval are those relating to the sanitation of school buildings and giving school authorities power to establish medical inspection. The bill for the prevention of blindness in infants, known by some as the ophthalmia neonatorum bill, received legislative approval, and ought to prove the means of saving vision for several thousand infants each year who otherwise would be blind from the effects of a purely preventable disease. The bill devoting 5 per cent. of the excess dog tax for the free treatment of poor victims of hydrophobia passed the legislature, and is a good bill but was not half as necessary as many other bills which met defeat or died in the hands of some committee. In our judgment there were other bills which should have received more attention at the hands of the medical profession than this bill, for with the possibility of securing the passage of only a limited number of bills, efforts should have been directed toward the securing of the most needed legislation.

The iniquitous bill of Senator Stotsenburg, for lowering the standard of medical requirements by allowing all doctors to register on diplomas without examination, was very justly killed in committee. The bill of Senator Gehrs to cripple the work of the State Board of Health and reduce the rank of Secretary Hurty, offered purely as a vindictive personal retaliatory measure, met with merited defeat. Perhaps it was not surprising that a member of the medical profession should have been the author of this bill, but if he thought for a moment that he would have even a limited amount of support from the medical profession he found himself badly mistaken. From the objection that came from newspapers, commercial and literary clubs, medical societies, organizations and individuals all over the state, irrespective of party affiliations, it was soon discovered that any attempt on the part of the legislature to cripple the work of Secretary Hurty would be resented with a vengeance.

The bill allowing the physician to the Indiana Reformatory to also act as the physician to the Southeastern Insane Hospital passed, and is in the line of economy and concentration of offices, inasmuch as one man can do the work of both places and at a less cost to the state than would be required if two physicians were employed. The bill authorizing the State Board of Medical Registration and Examination to revoke licenses for fraudulent advertising was favorably reported by the senate committee, but the bill never got any further. It is unfortunate that this bill did not become a law, as it probably would have put a stop to a good deal of the imposition practiced by advertising doctors, though no doubt other means would be adopted to fleece the public.

In the way of appropriations the Indiana University School of Medicine, outside of the $25,000

a year for the maintenance of the hospital, did not receive the consideration deserved, and this is true of the State Board of Health, which always gets less than what is required for the best work and the broadening of the activities of the department. However, considering that the legislature started in with the view of rigid economy, and in this purpose was actuated by the urgent request of the governor, it is safe to say that the appropriations for those things in which the medical profession is particularly interested were fairly generous, though we always breathe a sigh of relief when the legislature adjourns, for knowing the tendencies for harm of such men as we usually send to the legislature most any kind of freak legislation is apt to be put through.

CARTOONS AND EDITORIALS IN THE LAY PRESS ON VIVISECTION

While one or two of the leading New York newspapers, and *Life* as an illustrated weekly, are opposing vivisection and animal experimentation and trying to secure a law to prohibit it, it is refreshing to know that some of the leading newspapers and periodicals are taking an active part in the defense of vivisection and the fight against the proposed anti-vivisection legislation. *Colliers Weekly* has repeatedly published some very forceful editorials in which facts have been produced leading to logical conclusions as to why vivisection and animal experimentation should be permitted for the advancement of science and in the interest of suffering humanity. Attention has been called to the misrepresentation and the vicious falsehoods promulgated by those who call themselves anti-vivisectionists. These weak-minded sentimentalists are perfectly willing to see birds and animals destroyed by the millions in an inhuman manner in the name of sport or to furnish food for the people, or even unnecessary and extravagant luxuries in the way of raiment, but they throw up their hands in holy horror if the lives of a few worthless dogs, guinea-pigs or rabbits are sacrificed in the interest of human lives that may be saved from disease, the true nature and cure of which can only be determined through results obtained by vivisection.

Puck in the issue of February 22 has a full page cartoon on vivisection which is only one of several cartoons on the subject which will appear in subsequent issues. In the center of the page is the man of science, with microscope and scalpel, about to engage in some phase of experimental work or scientific study which requires vivisection in order to obtain the desired results. Before him is a rabbit humanely strapped and anesthetized by the assistant so that the animal suffers no pain. The man of science is halted in his work on the one hand by the sentimentalists, mostly women bedecked with plumes and furs obtained by the maiming or killing of birds and animals to satisfy vanity, who hold up their fingers and angrily demand of the man of science "For mercy's sake stop!" On the other hand, the sufferers, consisting of the sick and crippled and plainly showing the ravages of disease, throw up their hands and say "For humanity's sake go on!" The cartoon tells its story at a glance and reaching millions of people ought to have as much if not more influence than pages of written editorials on this subject.

Proofs of the value of vivisection in promoting life, health and happiness are sufficiently plentiful to convince any honest and right thinking person of the injustice of attempts to put a stop to the practice. Nearly all of the greatest discoveries in medicine and surgery and the successful application of those discoveries have come about through vivisection and animal experimentation. Millions of human lives have been saved as a direct result of these discoveries, and millions more will be saved by discoveries of the future brought about through similar means. Yet the fanatical and irrational anti-vivisectionists would put a stop to this humanitarian work. In this fight for humanity's sake it is hoped that more periodicals having the prestige and influence of *Colliers* and *Puck* will cast their lot.

NOTICE TO COUNTY MEDICAL SOCIETY SECRETARIES

The notice in the February number of The Journal to the effect that certain county societies are in bad standing because they do not possess charters comes as a surprise to many secretaries, and they have been hastening to apply for charters. To those of you who did not have your charter framed and hanging in a conspicuous place the warning must be repeated, that no delegates will be recognized at Indianapolis except those whose credentials bear the number of the charter issued. Within the last month I have sent every secretary in the state a copy of the latest edition of the Constitution and By-Laws of the State Association. You will save yourself annoyance by keeping this and consulting it when questions arise. When in doubt look it up in this little book. Furthermore, see that the Constitution and By-Laws of your local soci-

ety are not in conflict with or not annulled by any of its paragraphs.

Most of the membership cards have been issued by this time and it has been the aim to copy the names of the members as given by the county secretary. If any mistakes have occurred in spelling, initials, or address it must be charged to the Horace Greeley chirography of the county secretary. If any member complains about an error in his card please have it returned at once, as it is really more important to this office than it is to the member that this mistake be corrected.

I regret very much to have to publicly announce that the secretaries of the societies in the following counties, after two months of notification and entreaty, have not sent in their list of members so far this year: Hamilton, Morgan, Newton, Parke, Pulaski, Stark, Steuben. Will any interested member therein who reads this notice take pride enough to see that the delinquent secretaries attend to this at once.

I wish to thank those few secretaries who have sent me programs and notices of meetings, and again ask others to extend this courtesy to me.

Chas. N. Combs,
Secretary Indiana State Medical Association.

THE FUNCTIONS OF THE GREAT OMENTUM

With the rapid strides made in abdominal surgery within the last few decades has come the recognition of the important potentialities of the great omentum. Hardly an inflammatory lesion is encountered within access of this organ in the belly or pelvic cavities that does not show an early response by the omental apron to the insult. And yet it is well to be on our guard lest we pin too much faith in this auxiliary agent. So that we cannot but welcome an exhaustive pathologic and experimental study of this subject such as was made by Rubin of New York and the results published in the February, 1911, number of *Surgery, Gynecology and Obstetrics.*

The notions regarding the functions of the great omentum are both historically interesting and multifarious. For instance, Aristotle ascribed to the omental apron the purpose of protection against cold, while Vesalius believed it to be a fixation ligament and Verhagen thought it protected the abdominal viscera from friction. Fabricius and Cuvier considered it as a sort of "emergency fold" which by widening, enabled the stomach to better accommodate itself to its environment, while Hansen ascribed to the omentum the power of drawing the filled stomach downward, thereby facilitating respiration.

More recently the omentum has been regarded (1) as a moistening and separating, as well as an absorbing, organ; (2) as an expanded lymph gland or blood-vessel organ possessing the functions of the abdominal hemolymph tissues; and (3) as a defensive agent in various pathologic conditions and accidents, similar to a pathologic leukocytosis. This latter theory arose from the observation of the omentum in any quadrant of the abdomen where inflammation existed, a so-called "chemotactic reaction."

Studies on the cadaver and on fresh post-mortem material have proved the position of the omentum, in the absence of a pathologic, intra-abdominal lesion, to be variable, the length varying from a few inches to a comparatively enormous length, not infrequently longer on one side than the other, or possessed of two or more finger-like processes. Likewise the weight and volume varied from its being a mere shred to one kilogram in weight. Similarly the attachments to the stomach, spleen and transverse colon are subject to considerable variation, while frequently in children and young adults the gastrocolic omentum forms a quite broad mesentery for the gall-bladder. Abnormal conditions and positions of the viscera manifestly alter the omental relations, in the presence of intra-abdominal exudates and transudates the omentum usually being found coiled up, but in a few cases floating on the fluid.

Among the pathologic observations in 100 autopsies, many of which cases had been studied clinically, most instances of omental involvement were in inflammatory lesions, although in a certain percentage of intra-abdominal inflammations, the omentum was free from adhesions. The surface of the omentum was usually involved in umbilical hernia, laparotomy wounds, and in general peritonitis. In inflammatory lesions of the pelvis, abscesses of tubal, prostatic or suprapubic origin, the edge of the omentum functionated in walling off the abscess, often forming a complete roof from one inguinal region to the other. In perforated appendicitis and gastric ulcer, the omentum was plastered more or less imperfectly against the perforation; in intestinal anastomosis it usually attached itself to the circumference of the suture; while in two cases of liver abscess there existed no abnormality of the omentum. In gall-bladder lesions, as a rule, the adjacent portions of the omentum became attached. In two cases of fatal intraperitoneal bleeding the omentum was found rolled up

against the stomach, behaving exactly as in ascites. Retroperitoneal and gastro-intestinal lesions not involving the serosa, typhoid fever and colitis, had no apparent effect on the omentum.

An interesting feature in connection with new growths was that they were seldom attacked by the omentum and when an intra-abdominal mass was so attacked it proved to be inflammatory rather than neoplastic, or else an inflammatory change was taking place in such neoplasm.

Experimental observations on rabbits, cats and dogs showed that the intestinal peristalsis can change the position of the omentum and that the latter possesses no demonstrable movement of its own, thus exploding Milian's theory of an "intelligent chemotaxis of the omentum." Comparative studies on lower animals likewise demonstrate the primary functions of the omentum to be, not defensive ones in the modern sense of the term, but rather mechanical, by affording fixation to the intestines, by providing freedom of movement to the intestines, and by serving as carriers for nerves, veins and arteries. De Renzi and Boeri proved that after ligation of the splenic vessels, the spleen was nourished by the omental vessels though it became markedly smaller, as it did also after ligation or resection of the omentum alone, while ligation of both the splenic and omental vessels produced death of the animal within twenty-four to forty-eight hours, from gangrene of the spleen.

The defensive rôle played by the omentum depends on its wide area of mobility as one portion of the peritoneum: its comparative richness in blood-vessels and fat: and its ability to form adhesions. The last-named function is dependent in turn on three factors, viz.: (1) a gross lesion; (2) a certain amount of exudate; (3) the injured viscus must possess a certain fixity as well as accessibility.

The chief requisite in the prevention of omental adhesion to the laparotomy wound is care not to include the omentum in the stitch; the sutures should be tight, with no gap between the lips of the wound.

For the prevention of postoperative adhesions the introduction of some fluid seems a serviceable procedure, and for this purpose oil, large quantities of saline solution or sterile ascitic fluid are useful. Resection of the omentum resulted in decreased absorption from the abdominal cavity.

In order to test further the reparative function of the omentum, several different operations on the gastro-intestinal tract of cats and dogs were performed, as gastro-enterostomy, entero-enterostomy, perforation of gut and appendectomy. In the bowel anastomotic operations the omentum was found attached to the line of suture. In the gut perforation experiments the omentum was usually found attached to the seat of perforation and nowhere else. After appendectomy the omentum became attached to the stump and adhesions resulted, even when carbolic acid was used to cauterize the appendix stump. As a general rule, catgut was less apt to attract the omentum than silk, a very important point for the abdominal surgeon to bear in mind.

INTRAVENOUS INJECTION OF MAGNESIA SULPHATE IN BACTEREMIA

To those who have held the belief that magnesium sulphate introduced into the human bloodstream acted as a virulent poison, will occur a rude shock by the announcement that this salt has been introduced into the veins of both animals and human beings with impunity, so far as toxic manifestations are concerned. Indeed it seems to have exerted a very beneficial influence in combating a streptococcemia at the hands of Huggins, who made use of it in six cases of puerperal sepsis.[1] Having observed the gratifying results from the local use of magnesium sulphate in the treatment of erysipelas, tetanus and virulent lymphangitis, Huggins was stimulated to ascertain, if possible, the rationale of the action of this drug when locally applied. The suggestion that the good effects are due to a direct bactericidal action of the drug has not been borne out by clinical experience. Also that they are not due to osmosis is shown by the fact that other salts with a greater osmotic power do not exert the same beneficial action.

Thinking that the beneficent effect of the drug might be due to a hyperleukocytosis induced, a careful study was instituted in both rabbits and the human, and it was found that there was no regular increase in the leukocytes by the intravenous injection of the salt. In the presence of infection an increase in leukocytes appeared in some cases but with no regularity nor was there any decided polynucleosis. Moreover, a 1 per cent. solution of magnesia sulphate in the culture tube does not inhibit the growth of the streptococcus.

Examination of the spinal fluid in one case of tetanus previous to the injection of magnesia sulphate showed but one lymphocyte per cubic millimeter, while a count twenty-four hours later

1. Am. Jour. Obst., February, 1911, pp. 265-271.

showed 2,000 polymorphonuclear cells per cubic millimeter. The author believes that in some manner the drug assists in raising the resistance of the tissues, but can only speculate as to what its curative effect is due.

Magnesia sulphate given to rabbits intravenously or subcutaneously in large doses affects chiefly the respiratory system in an inhibitory fashion; i. e., as the injection slowly proceeded the inspirations became shorter and shorter. The most striking general effect was the production of anesthesia, quietly and without any sign of an irritating influence.

In the experiments cited there occurred no regular purgative action, such result occurring in only about 10 per cent. of the rabbits injected, which may have been purely incidental. When injected into the peritoneal cavity, however, the drug has a marked purgative action.

Experiments show that a 1 per cent. solution of magnesia sulphate in normal saline will not produce hemolysis of the human blood. Neither will it precipitate the globulins as claimed by Teubusher when given in this dilution, nor was there noted any effect on the specific gravity of the urine.

Thirty grains of the sulphate of magnesia in 8 ounces of normal saline can be safely administered intravenously to the average individual, but must be given slowly, at a temperature of 105 to 108 degrees, twenty minutes being consumed in the process. A rapid flow into the vein is followed by embarrassed respiration and the patient complains of a general sensation of heat. The drug has been given in the manner described fifty times by the author or his assistants, with frequent gratifying results. It may be given at intervals of twenty-four hours for several days.

The therapeutic use of the drug was tried in several cases of puerperal infection with apparent benefit, the type of case being similar to others who died in spite of all treatment.

Several charts are appended to show the gradual decline in the temperature and pulse following the intravenous administration of the remedy. Blood-cultures from all of these cases save one showed pure streptococcus infections, and although in this case the blood-culture was negative, a culture from the uterus showed streptococci.

The author freely admits that his series is entirely too small to prove anything but offers his results for what they are worth and as probably the first in which magnesia salts have been administered intravenously in the treatment of disease. It should be borne in mind that salts of magnesium are held to be extremely toxic, and their administration into the blood-stream must be done with great care and with a full knowledge of the risk attached. Later results may establish the inefficiency of the treatment, as well as the preponderance of the risk over the ends attained.

The author concludes his interesting study by saying that "a great advance will have been made if the natural aids which are called on to overcome infection after it has occurred can by some means be placed on the alert, so that they stand well organized and ready to give battle to an anticipated invasion of bacteria. If this is possible, infection which might otherwise be most virulent in its progression can be overpowered and checked in its onset before a rapid multiplication of the germs and diffusion of their toxins occur.

"We are at present inclined to speak glibly about certain changes in the blood incident to infection and various forms of disease. It is well to remember that the study of these important phenomena is still in its infancy and that much remains unproved. There is great opportunity in this field not only for the pathologist but for the clinician as well, because to him is given the opportunity to make careful observations at the bed-side, which demonstrate the practical value of certain conclusions in spite of theoretical deductions to the contrary, which sometimes emanate from the laboratory."

EDITORIAL NOTES

It is not too early to begin planning to attend this year's session of the American Medical Association, to be held in Los Angeles, June 27-30. Everything points to an unusual attendance for a Pacific coast session and the physicians of Los Angeles are arranging to give the visitors the benefit of unusual hospitality.

The legislature is showing a fine contempt for Dr. Hurty's sanitary bills and it is a foregone conclusion that they will not be passed. These bills are designed merely to protect the life and health of the people of this state and are, therefore, too inconsequential for our statesmen whose time is absorbed by those weightier matters relating to the sale of beer and higher salaries.—Fort Wayne *News*.

The Committee on Public Policy and Legislation of the Indiana State Medical Association, individually and collectively, deserves great credit for the work done during the recent session of the legislature. Criticism oftentimes is not founded on comprehensive knowledge of all the facts, and President Heath's letter, published in this number, ought to give our readers a better understanding of the work done by the committee and the manner of doing it.

We hope that the committee appointed for the purpose is thoroughly investigating the subject of medical defense and that at the Indianapolis session a plan combining all of the best features of medical defense will be offered for adoption and put into immediate operation. Medical defense by state medical societies has been successful in many states, and there is no reason why it should not be thoroughly successful in Indiana. The Association has already adopted medical defense as one of the benefits of membership, and this year a portion of the dues will be set aside for paying the expense. It only remains for the Association to put in operation a plan approved by the committee to make the feature one of the valuable benefits derived from membership in the Association.

A woman wrote to Washington asking the government how she could cure herself of tuberculosis. The government had no information to give her, and a year later she passed away of this preventable disease. At the same time a farmer —her next-door neighbor—wrote to Washington about his sick hog. He got his information and it saved the hog's life. "Be a hog and worth saving!" they say in Washington as they tell this story.

But just how long are the American people going to stand for the injustice of having a department at Washington to save hogs and no department to save human beings? We cannot too urgently insist that this government shall institute and support a national department of health at Washington, and end this ridiculous condition.—*Ladies Home Journal*, March 1, 1911.

Evidently The Journal is appreciated or we would not receive so many complaints if some of the numbers go astray in the mails or for any other reason any of the subscribers fail to get their copies regularly. For the benefit of those who can see no reason why an occasional copy of The Journal should not be delivered, we desire to repeat, what we have often said before, that the name of every subscriber to The Journal sent us by the secretary of the State Association is placed on our mailing list immediately, and thereafter copies of The Journal should go regularly to each person whose name appears on the mailing list. Every month a few journals go astray in the mails, and a few journals have the addresses rubbed off before the journals are delivered to the post office, and we are unable to rectify these unavoidable errors until after we hear from the subscribers who fail to receive their journals. It should be remembered that we are as anxious as the subscribers to have all of the journals delivered regularly, for whenever there are omissions or errors it makes more work for us. But any subscriber who does not receive his journal for the current month by the end of the month should immediately notify us and a duplicate copy will be forwarded. In writing us concerning failure to receive The Journal always give name and address, and the number of the membership card, so that the matter can be traced promptly.

Commenting on the objection which some people make to the payment of just and reasonable fees for medical services, one of our readers relates the following incident:

A farmer called a veterinary surgeon to attend a rather valuable sick boar, and offered no objections to the veterinary surgeon's bill which required $2 for each of eight visits and $4 extra for medicine, making a bill of $20 in all. At the time the veterinary surgeon was making his visits, the farmer's child was sick with diphtheria, and the family doctor, a neighbor of the veterinary surgeon, was making regular visits. When the family physician presented his bill at the conclusion of the services and asked $1 each for fifteen visits and $10 extra for the antitoxin furnished, the farmer went up in the air as though he had been stabbed with a knife and declared that he would not stand any such imposition, as the doctor should furnish any and all medicines and when making so many visits ought to make a discount from the bill. His attention was called to the fact that the child's life ought to be more valuable than the boar's life, and that no objection had been made to the veterinary surgeon's bill which was twice as large, but no amount of argument could persuade the farmer that the bill for services rendered the child was not extortionate.

As a matter of fact we think the doctor was at fault in ever placing his services on a lower plane than those of the veterinary surgeon. The bill should have been at least equal to the amount charged by the veterinary surgeon, and collection should have been made even through the process of law if necessary.

Statistics show that there are 60,000 blind persons in the United States, one-third of whom are blind from a disease which is easily prevented. In Indiana there are approximately 2,500 blind persons of whom 800 are blind from this disease. Consider what these blind persons are losing and have lost as the result of their disability. There is nothing more precious than eyesight. Reduced to its value as compared to a human life, the loss of eyesight in both eyes is equivalent to the value of human life, for accident insurance companies pay the full value of any accident policy to its holder if accident deprives him or her of eyesight. A pair of eyes is equal to the life value of the possessor thereof.

This disease further causes 72 per cent. of all blindness in children under one year of age and has been denominated by one writer as "a veritable world plague."

Children and adults blind from this disease need never to have been blind.

The disease causing all this trouble is called by the doctors, "Ophthalmia Neonatorum," or the sore eyes of new-born babies.

It usually manifests itself a few hours after birth and matter is seen coming from between the eyelids. When left to itself it very soon causes loss if not destruction of eyesight in every baby thus afflicted.

It can be prevented.

How?

By having the doctor, upon the birth of the baby's head and cleansing thereof, drop into each eye a 1 per cent. solution of a medicine called nitrate of silver. So well informed are the mothers of the State of Connecticut, that they demand that the doctor use the "drops" in each and every baby's eyes when born. To be successful the medicine must be used in every baby's eyes.

It can do no harm.

The refusal to have it used may fill a life of a mother full of regret because it was not used.

Suppose the disease develops in spite of the above precaution:

Call a doctor right away.

Never use a poultice or mother's milk or any other suggestion from well-meaning but uninformed neighbors and friends.

In a subsequent publication we will tell what the doctor ought to do in case the disease develops. —*Bulletin of Indiana State Board of Health*, December, 1910.

CORRESPONDENCE

THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

Indianapolis, Ind., Feb. 27, 1911.

Editor the Journal:—The February issue of The Journal contains a letter from Dr. Jett, of Terre Haute, with reference to the Committee on Public Policy and Legislation, which should not be passed over in silence. The letter has some very good points along with some errors.

The best thing in Dr. Jett's letter is this: "The Committee on Public Policy and Legislation is of such importance that there should be one member from each councilor district, and two or three from Indianapolis." But the by-laws of the State Association say that the Committee on Public Policy and Legislation should be composed of three members in addition to the President and Secretary, and former officers were scored severely by my predecessor because they had done just about what Dr. Jett proposes, although in enlarging the committee they had intended to make the additional members advisory. I wish that Dr. Jett would present an amendment to the by-laws, carrying out his idea. If not a delegate himself, he could get the representative of his county society to present it.

When the doctor says: "The committee should seek assistance by sending to each county society a copy of each legislative measure that has medical interest, together with the committee's recommendations," he becomes an idealist. That would be the thing to do, if possible, but it is entirely impracticable. Who is to do all this work? How can you get eighty-seven copies of a bill? Does not the doctor know that by the time the bill is printed it may be so far along that even if copies were obtained and sent to the county societies it is likely to be killed or passed before the societies act on it?

It would be a good idea for any members to bring up in their county societies any matters

that they thought should be brought before the legislature, get action in their local societies and instruct their delegates to bring them before the State Association. The Committee on Public Policy and Legislation would be only too glad to have any aid, suggestions or instructions of that kind. If anyone knows of any action on any bill, in which there was any great difference of opinion among the profession, he is in possession of facts not known to such committee, I am sure. The only possible exception to this statement that occurs to me is the late Purdue-Indiana Medical College controversy which happily is a thing of the past.

This year's Committee on Public Policy and Legislation concerned itself principally with measures for raising the standard of medical education, sustaining the State Board of Health in its warfare against tuberculosis, and for sanitary reform and the prevention of disease. The work of the committee as well as that of "some individual in Indianapolis" like Hurty, Wishard, Morrison and myself will appear in what seems to me a pretty good record for the passage of worthy bills and the killing of bad ones, although it is to be regretted that we could not get favorable action on the bill authorizing the State Board of Medical Registration and Examination to revoke licenses for fraudulent advertising. The fact that so many doctors have responded with telegrams and letters to their representatives in regard to bills of which they did not know the contents simply shows their confidence in the judgment and good intentions of those of us who have made such requests. I wish to thank the hundreds of doctors who have so responded to my appeals in the past, as well as those of Dr. Wishard and others. Had they waited to have a chance to read the bills and get action of their county societies, health board measures would have fared ill, there would have been no medical board law passed in 1897, no improvement of it in 1902, the osteopaths would have obtained a separate board, the Christian Scientists and various fads and forms of quackery would have had things all their own way. Action has to be prompt and it has to meet the condition that may arise with some amendment not previously thought of.

Unless, therefore, Dr. Jett can provide some way of getting plenty of copies of bills a long time before they are to be acted on, and get action of county societies on these and on all possible amendments in advance, it looks as if it might be necessary for "some individual in Indianapolis" to continue to ask help from the profession in warding off vicious legislation and in passing measures for the good of the people, meeting emergencies as they arise. It has certainly been our intention to serve the interests of the profession and the people, rather than to act as dictators or supporters of bills in the interest of any individuals. No one would have the time to do what Dr. Jett wants done, even if it were possible to get the bills promptly. There is so much legislation of interest to the profession that it would take some man's whole time following up the work of the legislature, making notes of bills presented, applying for copies as soon as printed, getting in touch with committees about hearings on the bills (the best time to kill a bad bill or boost a good one being often at the hearing, and usually no one near but Indianapolis doctors), follow up second readings, amendments, third readings, both houses, and then asking the governor to sign or veto, as the case may be.

Is there any one who wants the job and feels equal to it? Most of us have to spend some time in the practice of our profession. When we give a lot of time and energy to legislation in the interest of the profession and people, do we deserve criticism or credit?

F. C. Heath,
President Indiana State Medical Association.

DEATHS

Dr. Lorenia Kemble died at her home in South Bend February 16 after a short illness, aged 63 years. She had practiced medicine in South Bend thirty-five years.

Dr. Addison W. Bare of Bryantsville died at his home March 1, having practiced there fifty years. Dr. Bare was born in 1826. He was a member of the Lawrence County Medical Society.

NEWS, NOTES AND COMMENTS

Dr. E. J. McOscar of Fort Wayne has recently returned from a trip to Panama.

Dr. D. R. Saunders, of North Vernon, a member of the Jennings County Medical Society, has recently removed to Guthrie, Okla.

Dr. John T. Wheeler of Indianapolis announces the removal of his office to Suite 708, K. of P. Building. Special attention given to surgery.

Dr. Frank G. McCarthy, of Terre Haute, and Miss Harriet Juliet McCown, sister of Dr. P. E. McCown, of Indianapolis, were married at Indianapolis Jan. 1, 1911.

Mrs. Margaret Alexander, widow of Dr. S. J. Alexander of New Albany, one of the oldest native born residents of that city, died February 26. She was 90 years of age.

Dr. Ludvig Hektoen of Chicago will be one of the teachers at the School for Health Officers, held annually in May in Indianapolis, by the Indiana State Board of Health. Dr. Hektoen will lecture on "Insects and Disease" and "The Work of Robert Koch."

Since the publication of the February number of The Journal the following articles have been accepted by the Council on Pharmacy and Chemistry for New and Nonofficial Remedies:

Antidysenteric Serum "Hoechst" (Victor Koechl & Co.).

Antipneumococcus Serum (Victor Koechl & Co.).

Triturated Tubercle Bacilli (Victor Koechl & Co.).

Arhovin (Schering & Glatz).

Arhovin Capsules (Schering & Glatz).

SOCIETY PROCEEDINGS

THE INDIANA STATE MEDICAL ASSOCIATION

A complete list of those who have paid Association dues for 1911 will be published in this and succeeding numbers of The Journal. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published below includes only those whose dues were received up to March 1. Errors in name or address should be reported to Secretary Combs, giving number of the membership card to facilitate prompt detection of the error on the membership records. The list as published constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address	County Society
1	C. G. Beckett, Attica	Fountain-Warren
2	F. S. Cuthbert, Kingman	Fountain-Warren
3	W. H. Dinsmore, Kramer	Fountain-Warren
4	A. M. Sullivan, Attica	Fountain-Warren
5	L. A. Bolling, Kramer	Fountain-Warren
6	F. A. Shoaf, Veedersburg	Fountain-Warren
7	L. A. Spinning, Covington	Fountain-Warren
8	Geo. Rowland, Covington	Fountain-Warren
9	H. N. McKee, Covington	Fountain-Warren
10	Roy Burlington, Attica	Fountain-Warren
11	A. C. Holley, Attica	Fountain-Warren
12	M. T. Case, Attica	Fountain-Warren
13	C. J. Finney, Attica	Fountain-Warren
14	T. W. Kelsey, Attica	Fountain-Warren
15	S. S. DeLansey, Williamsport	Fountain-Warren
16	Geo. S. Porter, Williamsport	Fountain-Warren
17	E. W. Kirk, Williamsport	Fountain-Warren
18	C. S. Stewart, Auburn	Dekalb
19	W. W. Swarts, Auburn	Dekalb
20	J. D. Nusbaum, Auburn	Dekalb
21	W. H. Nusbaum, Auburn	Dekalb
22	J. E. Cooper, Auburn	Dekalb
23	D. M. Hines, Auburn	Dekalb
24	W. F. Shumaker, Butler	Dekalb
25	J. E. Showalter, Waterloo	Dekalb
26	J. E. Tulley, Millsville	Henry
27	J. E. Hiatt, New Castle	Henry
28	H. W. Greist, New Castle	Henry
29	E. B. Call, Knightstown	Henry
30	S. G. Smelser, Richmond	Henry
31	E. G. Davis, Moreland	Henry
32	I. O. Buchtel, Auburn	Dekalb
33	L. M. Geisinger, Auburn	Dekalb
34	Vesta Swarts, Auburn	Dekalb
35	Frank Broughton, Waterloo	Dekalb
36	H. H. Koons, New Castle	Henry
37	Chas. M. Brucker, Tell City	Perry
38	Hardin S. Dome, Tell City	Perry
39	David C. Dome, Troy	Perry
40	J. H. Lee, Rome	Perry
41	Wm. H. Muelchi, Tell City	Perry
42	Addison L. Mayfield, Bristow	Perry
43	Willard F. Wedding, Cannelton	Perry
44	Earl Snyder, Troy	Perry
45	J. E. Taylor, Leopold	Perry
46	R. J. Wilson, Salem	Washington
47	A. Wm. Vogt, Oldenburg	Franklin
48	W. A. Buchanan, Hammond	Lake
49	C. W. Campbell, Hammond	Lake
50	B. W. Chidlaw, Hammond	Lake
51	F. H. Fox, Hammond	Lake
52	H. C. Groman, Hammond	Lake
53	W. F. Howatt, Hammond	Lake
54	A. J. Lauer, Whiting	Lake
55	T. W. Kohr, Hammond	Lake
56	T. W. Oberlin, Hammond	Lake
57	W. E. Putman, Hammond	Lake
58	E. M. Shanklin, Hammond	Lake
59	W. D. Weis, Hammond	Lake
60	A. A. Young, Hammond	Lake
61	A. A. Ross, East Chicago	Lake
62	E. E. Evans, Gary	Lake
63	J. E. Metcalf, Gary	Lake
64	J. W. Iddings, Lowell	Lake
65	C. A. DeLong, Gary	Lake
66	F. W. Smith, Gary	Lake
67	H. M. Hosmer, Gary	Lake
68	C. C. Robinson, Indiana Harbor	Lake
69	Carl Boardman, Gary	Lake
70	F. J. McMichael, Tolleston	Lake
71	Wm. A. Weisner, Indiana Harbor	Lake
72	T. J. Toner, Gary	Lake
73	Geo. E. Miller, Hammond	Lake
74	Ira Miltimore, Gary	Lake
75	R. O. Ostrowski, Hammond	Lake
76	W. Roy Goodrich, East Chicago	Lake
77	S. Goldberger, East Chicago	Lake
78	G. L. Greene, Gary	Lake
79	I. J. Propper, Gary	Lake

No.	Name and Address	County Society
80	C. M. Reyher, Gary	Lake
81	W. P. Lane, Gary	Lake
82	M. S. Hopper, Gary	Lake
83	I. S. Millstone, Gary	Lake
84	Paul S. Johnson, Gary	Lake
85	G. Bieknell, East Chicago	Lake
86	H. G. Merz, Hammond	Lake
87	E. A. Gilson, Hammond	Lake
88	H. J. White, Hammond	Lake
89	T. E. Biery, Scottsburg	Scott
90	George F. Cline, Scottsburg	Scott
91	A. P. Kendall, Austin	Scott
92	W. L. McClain, Scottsburg	Scott
93	O. C. Murphy, Scottsburg	Scott
94	Levi McClain, Scottsburg	Scott
95	J. P. Wilson, Scottsburg	Scott
96	F. T. Dubois, Liberty	Union
97	E. R. Beard, Liberty	Union
98	H. M. Egolf, Liberty	Union
99	Garrett Pigman, Liberty	Union
100	W. A. Thompson, Liberty	Union
101	J. E. Morris, Liberty	Union
102	W. H. Hawley, College Corner	Union
103	J. H. Allin, Corunna	Dekalb
104	F. S. Brown, Corunna	Dekalb
105	Frank Bevier, Waterloo	Dekalb
106	A. B. Darby, Waterloo	Dekalb
107	M. E. Klinger, Garrett	Dekalb
108	F. A. King, Garrett	Dekalb
109	R. W. Bartley, Marion	Grant
110	L. M. Bridge, Marion	Grant
111	C. R. Brown, Marion	Grant
112	V. V. Cameron, Marion	Grant
113	I. S. J. Crumrine, Sweetser	Grant
114	B. C. Dale, Marion	Grant
115	G. R. Daniels, Marion	Grant
116	G. W. Daniels, Sweetser	Grant
117	A. T. Davis, Marion	Grant
118	G. G. Eckhart, Marion	Grant
119	R. E. Egbert, Marion	Grant
120	L. H. Eshelman, Marion	Grant
121	W. A. Fankboner, Marion	Grant
122	Wm. Flinn, Marion	Grant
123	D. A. Holliday, Fairmount	Grant
124	H. F. Jeffries, Upland	Grant
125	J. E. Johnson, Marion	Grant
126	A. W. Lloyd, Hammond	Grant
127	J. F. Loomis, Marion	Grant
128	J. A. Mattison, Marion	Grant
129	Harry Miller, Marion	Grant
130	O. W. McQuown, Marion	Grant
131	J. C. Knight, Jonesboro	Grant
132	C. J. Overman, Marion	Grant
133	J. W. Patterson, Fairmount	Grant
134	Nettie B. Powell, Marion	Grant
135	G. G. Richardson, Van Buren	Grant
136	M. T. Shiveley, Marion	Grant
137	H. N. Swezey, Marion	Grant
138	John N. Toney, Van Buren	Grant
139	E. M. Trook, Marion	Grant
140	Harry Williamson, Marion	Grant
141	C. E. Angell, Delphi	Carroll
142	P. W. Conway, Delphi	Carroll
143	W. F. Sharrer, Delphi	Carroll
144	H. C. Clauser, Delphi	Carroll
145	C. C. Crampton, Delphi	Carroll
146	J. J. Schultz, Delphi	Carroll
147	C. E. Carney, Delphi	Carroll
148	F. H. Robinson, Delphi	Carroll
149	W. R. Quick, Delphi	Carroll
150	H. M. Hall, Camden	Carroll
151	C. M. Kennedy, Camden	Carroll
152	Eva N. Kennedy, Camden	Carroll
153	B. F. Snyder, Camden	Carroll
154	C. E. Scholl, Camden	Carroll
155	G. M. Buck, Burrows	Carroll
156	E. D. Wagoner, Burrows	Carroll
157	H. Y. Mullin, Rockfield	Carroll
158	W. H. Galbreth, Rockfield	Carroll
159	C. C. Hickman, Yeoman	Carroll
160	E. L. Peter, Flora	Carroll
161	T. D. Peter, Flora	Carroll
162	M. D. Callane, Flora	Carroll
163	F. P. Lyons, Flora	Carroll
164	T. A. Kearns, Flora	Carroll
165	E. H. Brubaker, Flora	Carroll
166	B. W. Egan, Flora	Carroll
167	J. E. Kitchell, Deer Creek	Carroll
168	A. J. Chittick, Burlington	Carroll
169	O. G. Brubaker, Burlington	Carroll
170	W. O. Gossett, Radnor	Carroll
171	J. R. Carney, Pyrmont	Carroll
172	W. A. Trobaugh, Cutler	Carroll
173	C. O. Bechtol, Marion	Grant
174	J. R. Montgomery, Owensville	Gibson
175	M. A. Montgomery, Owensville	Gibson
176	F. M. Martin, Griffin	Gibson
177	K. S. Strickland, Owensville	Gibson
178	D. H. Swan, Haubstadt	Gibson
179	R. S. Mason, Oakland City	Gibson
180	H. M. Arthur, Hazelton	Gibson
181	W. H. Smith, Oakland City	Gibson
182	V. H. Marchant, Haubstadt	Gibson
183	H. L. Bass, Ft. Branch	Gibson
184	J. W. McGowan, Oakland City	Gibson
185	F. H. Maxam, Princeton	Gibson
186	A. H. Rhodes, Princeton	Gibson
187	T. Wirtz, Princeton	Gibson
188	J. M. Sanders, Vincennes	Gibson
189	C. A. Miller, Princeton	Gibson
190	S. I. Arthur, Patoka	Gibson
191	A. L. Ziliak, Princeton	Gibson
192	G. B. Beresford, Owensville	Gibson
193	R. S. Anderson, Princeton	Gibson
194	C. S. Bond, Richmond	Wayne
195	S. E. Bond, Richmond	Wayne
196	A. L. Brankamp, Richmond	Wayne
197	J. M. Bulla, Richmond	Wayne
198	L. B. Carter, Easthaven	Wayne
199	U. B. G. Ewing, Richmond	Wayne
200	W. T. Griffis, Fountain City	Wayne
201	W. M. Helm, Williamsburg	Wayne
202	R. R. Hopkins, Richmond	Wayne
203	M. F. Johnston, Richmond	Wayne
204	J. E. King, Richmond	Wayne
205	F. W. Krueger, Richmond	Wayne
206	A. L. Loop, Economy	Wayne
207	C. E. McKee, Dublin	Wayne
208	Chas. Marvel, Richmond	Wayne
209	J. R. Mauk, Cambridge City	Wayne
210	R. D. Morrow, Richmond	Wayne
211	R. J. Pierce, Richmond	Wayne
212	L. F. Ross, Richmond	Wayne
213	D. W. Stevenson, Richmond	Wayne
214	C. I. Stotelmeyer, Hagerstown	Wayne
215	J. N. Study, Cambridge City	Wayne
216	I. F. Sweeney, Milton	Wayne
217	J. M. Thurston, Richmond	Wayne
218	J. E. Weller, Richmond	Wayne
219	J. E. Wright, Cambridge City	Wayne
220	M. W. Yencer, Richmond	Wayne
221	Mize Harlan, Pueblo, Colo	Fountain-Warren
222	W. H. Ross, Veedersburg	Fountain-Warren
223	R. Stephenson, West Lebanon	Fountain-Warren
224	F. H. Pugh, Williamsport	Fountain-Warren
225	W. R. Cravens, Bloomfield	Greene
226	John W. Gray, Bloomfield	Greene
227	L. A. Hyde, Linton	Greene
228	J. M. Harrah, Switz City	Greene
229	A. F. Knoefel, Linton	Greene
230	L. C. Lukenbill, Marco	Greene
231	H. R. Lowder, Bloomfield	Greene

No.	Name and Address	County Society
232	E. R. Mason, Bloomfield	Greene
233	C. D. Mallett, Switz City	Greene
234	B. A. Rose, Linton	Greene
235	E. T. Sherwood, Linton	Greene
236	H. B. Leavitt, Worthington	Greene
237	B. T. Chambers, Lyons	Greene
238	A. A. Thomas, Linton	Greene
239	F. A. VanSandt, Bloomfield	Greene
240	B. M. Sherwood, Linton	Greene
241	R. Clarenee Stephens, Plymouth	Greene
242	H. P. Preston, Plymouth	Greene
243	L. D. Eley, Plymouth	Greene
244	B. W. S. Wiseman, Culver	Greene
245	S. C. Loring, Plymouth	Greene
246	J. W. Eidson, Plymouth	Greene
247	R. W. Terhune, Whiteland	Johnson
248	R. D. Willan, Trafalgar	Johnson
249	C. E. Willan, Trafalgar	Johnson
250	J. A. Craig, Greenwood	Johnson
251	R. B. McAlpin, Greenwood	Johnson
252	L. P. V. Williams, Whiteland	Johnson
253	H. J. Hall, Franklin	Johnson
254	J. N. Record, Franklin	Johnson
255	B. Wallace, Franklin	Johnson
256	O. A. Province, Franklin	Johnson
257	A. E. Ehle, Germantown	Wayne
258	J. B. Clark, Economy	Wayne
259	T. H. Davis, Richmond	Wayne
260	V. N. Faekler, Dublin	Wayne
261	Virl Griffis, Williamsburg	Wayne
262	O. N. Huff, Fountain City	Wayne
263	W. G. Huffman, Richmond	Wayne
264	W. R. Littell, Cambridge City	Wayne
265	S. C. Markley, Richmond	Wayne
266	E. S. Smith, Easthaven	Wayne
267	W. F. Morris, Fort Branch	Gibson
268	J. L. Morris, Princeton	Gibson
269	M. L. Arthur, Francisco	Gibson
270	W. W. Blair, Princeton	Gibson
271	G. C. Kendle, Princeton	Gibson
272	F. M. Payne, Princeton	Gibson
273	C. Bockoven, Bryant	Jay
274	C. E. Caylor, Pennville	Jay
275	Grant Chaney, Portland	Jay
276	J. T. Dickes, Portland	Jay
277	J. B. Garber, Dunkirk	Jay
278	E. C. Garber, Dunkirk	Jay
279	H. J. Heistand, Pennville	Jay
280	J. W. Hall, Portland	Jay
281	M. T. Jay, Portland	Jay
282	C. W. Mackey, Portland	Jay
283	Samuel Mason, Pennville	Jay
284	F. E. Moyer, Pennville	Jay
285	O. P. Murry, Dunkirk	Jay
286	C. A. Paddock, Portland	Jay
287	W. D. Schwartz, Portland	Jay
288	I. G. Sims, Portland	Jay
289	H. Wiley, Portland	Jay
290	W. H. Markley, Pennville	Jay
291	J. E. Nixon, Portland	Jay
292	I. L. Babcock, Rochester	Fulton
293	Aaron L. Bowman, Rochester	Fulton
294	F. C. Bitters, Rochester	Fulton
295	F. C. Dielman, Fulton	Fulton
296	Charles E. Gould, Rochester	Fulton
297	M. O. King, Rochester	Fulton
298	C. J. Loring, Rochester	Fulton
299	W. S. Shaffer, Rochester	Fulton
300	J. N. Rannells, Rochester	Fulton
301	C. L. Slomaker, Leiter's Ford	Fulton
302	Arthur E. Stinson, Athens	Fulton
303	H. W. Taylor, Rochester	Fulton
304	Archibald Brown, Rochester	Fulton
305	L. H. Bear, Vevay	Switzerland
306	J. W. Smith, Vevay	Switzerland
307	R. M. Copeland, Vevay	Switzerland
308	C. L. Crawford, Vevay	Switzerland
309	Scott Culbertson, Vevay	Switzerland
310	J. H. Shadday, Vevay	Switzerland
311	H. M. Thieband, Vevay	Switzerland
312	H. J. Told, Florence	Switzerland
313	J. P. Ward, Vevay	Switzerland
314	Clarence Abbott, Otwell	Pike
315	T. W. Basinger, Petersburg	Pike
316	W. J. Bethel, Winslow	Pike
317	S. R. Clark, Glezen	Pike
318	J. W. Coleman, Petersburg	Pike
319	W. M. Hunter, Petersburg	Pike
320	E. S. Imel, Petersburg	Pike
321	J. T. Kime, Petersburg	Pike
322	G. B. Grim, Petersburg	Pike
323	A. R. Logan, Algiers	Pike
324	T. R. Rice, Petersburg	Pike
325	G. R. Andrews, Muncie	Delaware
326	C. A. Ball, Muncie	Delaware
327	L. L. Ball, Muncie	Delaware
328	P. C. Barnard, Muncie	Delaware
329	J. N. Bell, New Burlington	Delaware
330	H. S. Bowles, Muncie	Delaware
331	G. W. Bucklin, Muncie	Delaware
332	H. A. Cowing, Muncie	Delaware
333	F. Downing, Yorktown	Delaware
334	H. D. Fair, Muncie	Delaware
335	H. P. Franks, Muncie	Delaware
336	Chas. Frazer, Muncie	Delaware
337	D. M. Green, Muncie	Delaware
338	E. S. Green, Muncie	Delaware
339	G. R. Green, Muncie	Delaware
340	F. E. Hill, Muncie	Delaware
341	F. G. Jackson, Muncie	Delaware
342	Chas. Jump, Selma	Delaware
343	S. G. Jump, Selma	Delaware
344	A. T. Kemper, Muncie	Delaware
345	G. W. H. Kemper, Muncie	Delaware
346	W. W. Kemper, Muncie	Delaware
347	E. B. Mann, Muncie	Delaware
348	T. J. Mansfield, Muncie	Delaware
349	C. E. Miller, Muncie	Delaware
350	Chas. E. Phipps, Shideler	Delaware
351	W. J. Molloy, Muncie	Delaware
352	O. W. Owens, Muncie	Delaware
353	U. G. Poland, Muncie	Delaware
354	C. G. Rea, Muncie	Delaware
355	J. M. Quick, Muncie	Delaware
356	J. C. Quick, Muncie	Delaware
357	C. W. Smith, Muncie	Delaware
358	O. E. Spurgeon, Muncie	Delaware
359	W. A. Spurgeon, Muncie	Delaware
360	E. F. Tindal, Muncie	Delaware
361	I. N. Trent, Muncie	Delaware
362	J. M. Vanderburg, Albany	Delaware
363	H. Winans, Muncie	Delaware
364	S. D. Adams, Brewersville	Jennings
365	Wm. W. Case, Zenas	Jennings
366	Miles F. Daubenheyer, Butlerville	Jennings
367	Luther M. Davis, Hayden	Jennings
368	Orville Gaddy, Paris Crossing	Jennings
369	Wm. L. Grossman, North Vernon	Jennings
370	Denis L. McAullife, North Vernon	Jennings
371	Jesse W. McClure, Milan	Jennings
372	Charles C. McFarlin, Zenas	Jennings
373	Walter Mitchel, North Vernon	Jennings
374	Wm. H. Richardson, Vernon	Jennings
375	D. R. Saunders, Guthrie, Okla	Jennings
376	Wm. H. Stemm, North Vernon	Jennings
377	Wm. A. Wildman, San Jacinto	Jennings
378	W. L. Wilson, Scipio	Jennings
379	Elmer D. Wright, Scipio	Jennings
380	D. W. Mathews, Commiskey	Jennings
381	Revel F. Banister, Paris Crossing	Jennings
382	G. W. Boner, Loogootee	Martin
383	T. C. Dollens, Trinity Springs	Martin

No.	Name and Address	County Society
384	J. S. Gilkison, Indian Springs	Martin
385	Wm. Gilkison, Loogootee	Martin
386	T. A. Hays, Burns City	Martin
387	E. E. Long, Shoals	Martin
388	G. M. Robinson, Loogootee	Martin
389	H. W. Shirley, Shoals	Martin
390	J. N. Sims, Shoals	Martin
391	Charles E. Stone, Shoals	Martin
392	J. W. Strange, Loogootee	Martin
393	J. C. Trueblood, Loogootee	Martin
394	U. C. Ambrose, Lyons Station	Fayette
395	Omar E. Dale, Connersville	Fayette
396	Ephriam Derbyshire, Connersville	Fayette
397	Lurton D. Dillman, Connersville	Fayette
398	R. H. Elliott, Connersville	Fayette
399	Stanton E. Gordin, Connersville	Fayette
400	Samuel N. Hamilton, Connersville	Fayette
401	Eugene Everette Hamilton, Bently, North Dakota	Fayette
402	Harry M. Lamberson, Connersville	Fayette
403	Joseph R. Mountain, Connersville	Fayette
404	Frank L. Mitchell, Everton	Fayette
405	Richard W. Sipe, Glenwood R. R. 29	Fayette
406	Frank J. Spilman, Connersville	Fayette
407	Jediah H. Clark, Connersville	Fayette
408	C. C. Rayl, Monroe	Adams
409	W. E. Smith, Decatur	Adams
410	H. M. Aspy, Geneva	Adams
411	C. R. Price, Geneva	Adams
412	J. M. Miller, Decatur	Adams
413	J. S. Boyers, Decatur	Adams
414	Seth D. Beavers, Decatur	Adams
415	P. B. Thomas, Decatur	Adams
416	M. F. Parrish, Monroe	Adams
417	C. C. Mills, Red Key	Jay
418	W. H. Walker, Portland	Jay
419	J. H. Barnfield, Logansport	Cass
420	John C. Bradfield, Logansport	Cass
421	C. A. Ballard, Logansport	Cass
422	N. W. Cady, Logansport	Cass
423	J. F. Cornell, Galveston	Cass
424	C. C. Campbell, Walton	Cass
425	C. D. Carpenter, Walton	Cass
426	Francis J. Hermann, Logansport	Cass
427	H. B. Hill, Logansport	Cass
428	John P. Hetherington, Logansport	Cass
429	Robert Hessler, Logansport	Cass
430	Wm. A. Holloway, Logansport	Cass
431	A. E. Graves, New Waverly	Cass
432	J. L. Gilbert, Logansport	Cass
433	John C. Davis, Logansport	Cass
434	H. C. Johnson, Logansport	Cass
435	F. M. Kistler, Royal Center	Cass
436	John A. Little, Logansport	Cass
437	Wm. E. Lybrook, Young America	Cass
438	Z. U. Loop, Galveston	Cass
439	G. D. Miller, Logansport	Cass
440	Chas. H. McCully, Logansport	Cass
441	H. H. Miller, Galveston	Cass
442	Lewis C. Miller, Twelve Mile	Cass
443	J. V. Nelson, Logansport	Cass
444	A. L. Palmer, Logansport	Cass
445	John H. Reed, Logansport	Cass
446	Joseph Rubsam, Logansport	Cass
447	L. L. Quick, New Waverly	Cass
448	J. B. Smultz, Logansport	Cass
449	J. J. Stanton, Logansport	Cass
450	A. W. Tucker, Logansport	Cass
451	R. E. Trontman, Logansport	Cass
452	C. L. Thomas, Logansport	Cass
453	Fred W. Terflinger, Logansport	Cass
454	A. J. Hermann, Los Angeles Cal	Cass
455	Clarke Rogers, Logansport	Cass
456	G. W. Baylor, Milltown	Crawford
457	J. J. Johnson, Milltown	Crawford
458	Peter Grant, Marengo	Crawford
459	H. H. Deen, Leavenworth	Crawford
460	J. Myers, Alton	Crawford
461	F. R. Gobbel, English	Crawford
462	G. B. Hammond, English	Crawford
463	Frank A. May, Hardinsburg	Washington
464	Wm. L. Green, Pekin	Washington
465	C. W. Murphey, Salem	Washington
466	R. E. Brokaw, Portland	Jay
467	E. E. Kirk, Spiceland	Henry
468	C. E. Van Matre, New Castle	Henry
469	S. C. Waters, Middletown	Henry
470	O. J. Gronendyke, New Castle	Henry
471	Ralph L. Wilson, Shirley	Henry
472	E. S. Ferris, New Castle	Henry
473	G. H. Smith, Knightstown	Henry
474	C. S. Spitler, Mooreland	Henry
475	H. W. MacDonald, New Castle	Henry
476	J. D. McKay, Marion	Grant
477	Joseph Maurer, Marion	Grant
478	C. B. Vigus, Point Isabell	Grant
479	Glen Henley, Fairmount	Grant
480	E. B. Chenowith, Nineveh	Johnson
481	W. N. Thompson, Sullivan	Sullivan
482	R. H. Vancleave, Farmersburg	Sullivan
483	J. T. Oliphant, Farmersburg	Sullivan
484	E. M. Corbin, Sullivan	Sullivan
485	Paul Higbee, Sullivan	Sullivan
486	E. E. Robards, Shelburn	Sullivan
487	Ed D. Thixtun, Sullivan	Sullivan
488	J. R. Crowder, Sullivan	Sullivan
489	T. S. Bedwell, Dugger	Sullivan
490	Aurel Goodwin, Fairbanks	Sullivan
491	H. E. Bland, Fairbanks	Sullivan
492	G. D. Scott, Chicago, Ill., 1429 E. Sixty-Sixth Street	Sullivan
493	J. J. Parker, Merom	Sullivan
494	C. F. Briggs, Sullivan	Sullivan
495	J. B. Maple, Shelburn	Sullivan
496	J. H. Wrork, Shelburn	Sullivan
497	James Miles, Merom	Sullivan
498	J. H. Neff, Sullivan	Sullivan
499	Curtis Bland, Greensburg	Decatur
500	C. R. Bird, Greensburg	Decatur
501	R. M. Thomas, Greensburg	Decatur
502	C. F. Kercheval, Greensburg	Decatur
503	J. M. Wood, Greensburg	Decatur
504	B. S. White, Greensburg	Decatur
505	W. E. Thomas, Clarksburg	Decatur
506	J. H. Alexander, Greensburg	Decatur
507	George S. Crawford, Milford	Decatur
508	I. M. Sanders, Greensburg	Decatur
509	O. F. Welch, Westport	Decatur
510	M. A. Tremain, Adams	Decatur
511	J. A. Welch, Letts Corner	Decatur
512	H. S. McKee, New Point	Decatur
513	J. C. Hill, Westport	Decatur
514	P. E. Clark, Clarksburg	Decatur
515	P. C. Bentle, Greensburg	Decatur
516	J. V. Bastin, Mt. Meridian	Putnam
517	C. C. Collins, Roachdale	Putnam
518	J. F. Cully, Bainbridge	Putnam
519	J. F. Gillespie, Greencastle	Putnam
520	W. R. Hutcheson, Greencastle	Putnam
521	Eugene Hawkins, Greencastle	Putnam
522	C. F. Hope, Coatsville	Putnam
523	J. E. Cullipher, New Maysville	Putnam
524	A. H. Horn, Putnamville	Putnam
525	E. M. Hurst, Cloverdale	Putnam
526	J. M. King, Greencastle	Putnam
527	P. Mullinix, Greencastle	Putnam
528	Y. N. New, Barnard	Putnam
529	J. L. Preston, Cloverdale	Putnam
530	C. Sudranski, Greencastle	Putnam
531	C. N. Stroube, Roachdale	Putnam
532	W. W. Tucker, Greencastle	Putnam
533	U. A. Wright, Coatsville	Putnam

No.	Name and Address	County Society
534	E. T. Zaring, Terre Haute	Putnam
535	C. T. Zaring, Greencastle	Putnam
536	W. M. McGanghey, Greencastle	Putnam
537	Arett Campbell Arnett, Lafayette	Tippecanoe
538	Ernest S. Baker, Lafayette	Tippecanoe
539	Geo. F. Beasley, Lafayette	Tippecanoe
540	Frank M. Biddle, Battle Ground	Tippecanoe
541	Arvill W. Bitting, West Lafayette	Tippecanoe
542	William F. Butler, Stockwell	Tippecanoe
543	Robert M. Campbell, Lafayette	Tippecanoe
544	Franklin S. Crockett, Lafayette	Tippecanoe
545	Ed C. Davidson, Lafayette	Tippecanoe
546	C. Vinton Davisson, West Lafayette	Tippecanoe
547	Charles C. Driscoll, Lafayette	Tippecanoe
548	Roy V. Hannell, Lafayette	Tippecanoe
549	James D. Hillis, Lafayette	Tippecanoe
550	Charles Hupe, Lafayette	Tippecanoe
551	Geo. F. Keiper, Lafayette	Tippecanoe
552	Charles B. Kern, Lafayette	Tippecanoe
553	Manson M. Lairy, Lafayette	Tippecanoe
554	A. J. Lane, Monitor	Tippecanoe
555	Guy P. Levering, Lafayette	Tippecanoe
556	Urban A. Lyle, Lafayette	Tippecanoe
557	Wm. F. McBride, Dayton	Tippecanoe
558	Ora L. McCay, Romney	Tippecanoe
559	Adah McMahan, Lafayette	Tippecanoe
560	Thomas Edgar Mitchell, Romney	Tippecanoe
561	Wm. R. Moffitt, West Lafayette	Tippecanoe
562	Wm. Henry H. Moore, Lafayette	Tippecanoe
563	John R. Morrison, Lafayette	Tippecanoe
564	Henry M. Mugg, Clarks Hill	Tippecanoe
565	W. H. Peters, Lafayette	Tippecanoe
566	George Revis, Lafayette	Tippecanoe
567	Wm. M. Reser, Lafayette	Tippecanoe
568	Edward B. Rushli, Lafayette	Tippecanoe
569	Adam W. Schreiber, Lafayette	Tippecanoe
570	J. Walter Shafer, Lafayette	Tippecanoe
571	Roger S. Tea, Lafayette	Tippecanoe
572	Oliver P. Terry, Lafayette	Tippecanoe
573	Frank B. Thompson, Lafayette	Tippecanoe
574	Geo. K. Throckmorton, Lafayette	Tippecanoe
575	George Riley Tubbs, West Point	Tippecanoe
576	Earl Van Reed, Lafayette	Tippecanoe
577	Wm. S. Walker, Lafayette	Tippecanoe
578	Robert Henry Wagoner, Colburn	Tippecanoe
579	Samuel S. Washburn, Lafayette	Tippecanoe
580	J. C. Webster, Lafayette	Tippecanoe
581	Arthur B. Westfall, Lafayette	Tippecanoe
582	Richard B. Wetherill, Lafayette	Tippecanoe
583	Milton C. Wilson, Lafayette	Tippecanoe
584	Curtis M. Wray, New Richmond	Tippecanoe
585	Chas. Arburn, Wadesville	Posey
586	J. P. Gibson, Stewartsville	Posey
587	Carl Flucks, Armstrong	Posey
588	J. E. Gudgel, Cynthiana	Posey
589	E. H. C. Heusler, Howell, R. F. D. 10	Posey
590	T. J. Hall, Caborn	Posey
591	W. L. Miller, Wadesville, R. F. D. 23	Posey
592	S. B. Montgomery, Cynthiana	Posey
593	D. C. Ramsey, Mt. Vernon	Posey
594	C. L. Rawlings, New Harmony	Posey
595	F. L. Stallings, Lindsay, Calif	Posey
596	H. H. Sugg, Mt. Vernon	Posey
597	Ira L. Turman, Cynthiana	Posey
598	R. M. Stormont, Stewartsville	Posey
599	S. W. Brown, Poseyville	Posey
600	C. H. Fullinwider, Mt. Vernon	Posey
601	F. H. Austin, North Madison	Jefferson
602	J. H. Calvert, Milton, Ky	Jefferson
603	J. H. Christie, Canaan	Jefferson
604	R. W. Cochran, Madison	Jefferson
605	E. C. Cook, Madison	Jefferson
606	J. Cooperider, Madison	Jefferson
607	C. C. Copeland, North Madison	Jefferson
608	G. E. Denny, Madison	Jefferson
609	Chas. Denny, Madison	Jefferson
610	F. C. Denny, Madison	Jefferson
611	H. S. Hatch, Madison	Jefferson
612	Carl Henning, Hanover	Jefferson
613	N. A. Kremer, Madison	Jefferson
614	Vincent Shepherd, Dupont	Jefferson
615	E. C. Totten, Madison	Jefferson
616	S. A. Whitsett, Kent	Jefferson
617	E. A. Carlson, Madison	Jefferson
618	W. H. Beaty, Worthington	Greene
619	A. W. Tobias, Elwood	Madison
620	M. A. Austin, Anderson	Madison
621	S. C. Newlin, Anderson	Madison
622	O. W. Brownback, Pendleton	Madison
623	F. F. Mendenhall, Elwood	Madison
624	J. Stewart, Anderson	Madison
625	J. E. Hall, Alexandria	Madison
626	Doris Meister, Anderson	Madison
627	B. H. Peree, Anderson	Madison
628	A. E. Otto, Alexandria	Madison
629	L. O. Williams, Anderson	Madison
630	B. H. Cook, Anderson	Madison
631	Etta Charles, Summitville	Madison
632	J. W. White, Summitville	Madison
633	F. W. White, Summitville	Madison
634	Seth Irwin, Summitville	Madison
635	R. E. Marshall, Elwood	Madison
636	W. R. Sparks, Pendleton	Madison
637	J. W. Cook, Pendleton	Madison
638	J. B. Fattic, Anderson	Madison
639	H. E. Jones, Anderson	Madison
640	W. M. Garretson, Perkinsville	Madison
641	I. Miley, Anderson	Madison
642	L. F. Mobley, Summitville	Madison
643	T. O. Armfield, Elwood	Madison
644	C. P. Runyan, Elwood	Madison
645	E. L. Wiggins, Elwood	Madison
646	L. E. Alexander, Pendleton	Madison
647	T. M. Jones, Anderson	Madison
648	J. T. Newhouse, Anderson	Madison
649	E. E. Parker, Culver	Marshall
650	John B. Shipley, Burr Oak	Marshall
651	A. A. Thompson, Tyner	Marshall
652	Chas. F. Holtzendorff, Plymouth	Marshall
653	A. C. Holtzendorff, Plymouth	Marshall
654	Geo. T. Beckett, Versailles	Ripley
655	M. J. Coomes, Batesville	Ripley
656	L. T. Cox, Napoleon	Ripley
657	E. D. Freeman, Osgood	Ripley
658	C. W. Gibson, Batesville	Ripley
659	T. E. Hunter, Versailles	Ripley
660	J. N. Hess, New Marion	Ripley
661	C. E. Holton, Holton	Ripley
662	M. F. Kraemer, St. Magdalene	Ripley
663	H. G. Nelson, Osgood	Ripley
664	J. R. Pate, Milan	Ripley
665	C. D. Ryan, Cross Plains	Ripley
666	R. C. Townsend, Osgood	Ripley
667	Bine Whitlatch, Pierceville	Ripley
668	W. H. Short, LaGrange	LaGrange
669	D. W. Dryer, LaGrange	LaGrange
670	A. J. Hostetler, LaGrange	LaGrange
671	C. C. Rozelle, LaGrange	LaGrange
672	F. W. Black, Ligonier	Noble
673	W. F. Carver, Albion	Noble
674	F. R. Clapp, Ligonier	Noble
675	A. G. Coyner, Kendallville	Noble
676	E. W. DePew, Wolf Lake	Noble
677	W. H. Franks, Ligonier	Noble
678	O. P. Franks, Churubusco	Noble
679	C. B. Goodwin, Kendallville	Noble
680	C. A. Gardner, Kendallville	Noble
681	J. L. Gilbert, Kendallville	Noble
682	W. T. Green, Albion	Noble
683	J. W. Green, Lead, So. Dak	Noble
684	J. W. Hays, Albion	Noble
685	W. H. Hays, Albion	Noble

No.	Name and Address	County Society
686	S. Hooke, Brimfield	Noble
687	E. A. Ish, La Otto	Noble
688	H. O. King, Kendallville	Noble
689	G. B. Lake, Army Med. School, Washington, D. C.	Noble
690	S. W. Lemmon, Albion	Noble
691	C. Lane, Kimmell	Noble
692	J. E. Luckey, Wolf Lake	Noble
693	F. C. Malony, Avilla	Noble
694	B. E. Miller, Albion	Noble
695	J. W. Morr, Albion	Noble
696	J. H. Nye, Cromwell	Noble
697	B. Pulskamp, Rome City	Noble
698	N. J. Shook, Kendallville	Noble
699	W. A. Shobe, Ligonier	Noble
700	C. A. Seymoure, Wawaka	Noble
701	H. G. Tucker, Cromwell	Noble
702	M. C. Vandeventer, Ligonier	Noble
703	Bessie Vandeventer, Ligonier	Noble
704	W. M. Veazey, Avilla	Noble
705	W. S. Williams, Kendallville	Noble
706	C. H. Adye, Patronville	Spencer
707	Otto Baumgaertner, Rockport	Spencer
708	Eva J. Buxton, Rockport	Spencer
709	C. S. Baker, Chrisney	Spencer
710	G. W. Bradley, Gentryville	Spencer
711	S. L. Carson, Lincoln City	Spencer
712	G. B. DeTar, Lake	Spencer
713	C. D. Ehrman, Rockport	Spencer
	Prof. Severance Burrage, Lafayette, Hon. Member, Tippecanoe Co. Soc.	
714	S. P. Gwaltney, Chrisney	Spencer
715	J. C. Glackman, Hatfield	Spencer
716	H. T. Harter, Newtonville	Spencer
717	G. W. Horrom, Hatfield	Spencer
718	N. A. James, St. Meinrad	Spencer
719	S. C. Lang, Rockport	Spencer
720	J. R. Lang, Rockport	Spencer
721	D. V. McClary, Dale	Spencer
722	J. J. Schweizer, Santaclaus	Spencer
723	S. W. Stuteville, Grandview	Spencer
724	H. G. Weiss, Rockport	Spencer
725	H. Q. White, Grandview	Spencer
726	O. A. Collins, Mohawk	Hancock
727	W. R. Johnston, Charlottsville	Hancock
728	J. L. Allen, Greenfield	Hancock
729	E. R. Sisson, Greenfield	Hancock
730	C. A. Barns, Greenfield	Hancock
731	W. R. Justice, Greenfield	Hancock
732	J. E. Ferrell, Eden	Hancock
733	Milo Gibbs, Greenfield	Hancock
734	Chas. Titus, Warrington	Hancock
735	E. E. Mace, New Palestine	Hancock
736	W. R. King, Greenfield	Hancock
737	C. K. Bruner, Greenfield	Hancock
738	E. R. Gibbs, Greenfield	Hancock
739	O. H. Heller, Greenfield	Hancock
740	Carl McGaughey, Greenfield	Hancock
741	E. A. Hawk, Fountaintown, R. F. D.	Hancock
742	S. W. Hervey, Fortville	Hancock
743	C. E. McCord, Fortville	Hancock
744	Stewart Slocum, Fortville	Hancock
745	Edwin Bennett, McCordsville	Hancock
746	P. E. Trees, Maxwell	Hancock
747	H. B. Boyd, Cambridge City	Wayne
748	J. C. Blossom, Richmond	Wayne
749	F. P. Buche, Richmond	Wayne
750	C. P. Colburn, Richmond	Wayne
751	L. M. Gentle, Richmond	Wayne
752	A. E. Vinton, Muncie	Delaware
753	H. R. Spickerman, Muncie	Delaware
754	M. M. Clapper, Hartford City	Blackford
755	C. W. Corey, Hartford City	Blackford
756	H. C. Davisson, Hartford City	Blackford
757	G. H. Dando, Montpelier	Blackford
758	Samuel Hollis, Hartford City	Blackford
759	Ella A. Hollis, Hartford City	Blackford
760	Wm. A. Hollis, Hartford City	Blackford
761	John R. Harold, Roll	Blackford
762	J. H. D. Lorimor, Hartford City	Blackford
763	J. C. Kirkpatrick, Roll	Blackford
764	C. A. Sellers, Hartford City	Blackford
765	C. Q. Shull, Montpelier	Blackford
766	J. A. Taylor, Montpelier	Blackford
767	F. M. Reynolds, Montpelier	Blackford
768	M. S. Bulla, Richmond	Grant
769	E. T. Stout, Upland	Grant
770	E. O. Harrold, Kansas City, Kan. care of Kan. City Oil Co.	Grant
771	J. C. Ross, Gas City	Grant
772	N. I. Kithcart, Columbia City	Whitley
773	D. S. Linville, Columbia City	Whitley
774	B. P. Linville, Columbia City	Whitley
775	C. L. Souders, Columbia City	Whitley
776	O. V. Schuman, Columbia City	Whitley
777	F. G. Grisier, Columbia City	Whitley
778	Verlin Nolt, Columbia City	Whitley
779	W. F. King, Columbia City	Whitley
780	Alice B. Williams, Columbia City	Whitley
781	Jessie H. Briggs, Churubusco	Whitley
782	F. M. Magers, Churubusco	Whitley
783	J. W. C. Scott, Hecla	Whitley
784	L. W. Tennant, Larwill	Whitley
785	E. M. Eberhard, South Whitley	Whitley
786	N. W. Webster, South Whitley	Whitley
787	R. S. White, Land	Whitley
788	C. S. Black, Warren	Huntington
789	W. D. Bonifield, Warren	Huntington
790	G. H. Brodbeck, Huntington	Huntington
791	W. C. Chafee, Huntington	Huntington
792	M. C. Clokey, Huntington	Huntington
793	E. T. Dippell, Huntington	Huntington
794	M. F. Fisher, Markle	Huntington
795	R. F. Frost, Huntington	Huntington
796	C. W. Fry, Huntington	Huntington
797	C. H. Good, Huntington	Huntington
798	B. H. B. Grayston, Huntington	Huntington
799	C. E. Grayston, Huntington	Huntington
800	F. W. Grayston, Huntington	Huntington
801	W. F. Grayston, Huntington	Huntington
802	J. M. Hicks, Huntington	Huntington
803	J. W. Kemp, Roanoke	Huntington
804	S. Koontz, Roanoke	Huntington
805	M. H. Krebs, Huntington	Huntington
806	H. E. Laymon, Warren	Huntington
807	Helen K. McIlvanie, Huntington	Huntington
808	F. B. Morgan, Huntington	Huntington
809	O. O. Nelson, Huntington	Huntington
810	A. H. Northrup, Markle	Huntington
811	G. M. O'Leary, Huntington	Huntington
812	I. C. Perry, Bippus	Huntington
813	E. W. Poinier, Andrews	Huntington
814	N. W. Scott, Huntington	Huntington
815	Wm. F. Smith, Huntington	Huntington
816	J. S. Sprowl, Warren	Huntington
817	R. Q. Taviner, Huntington	Huntington
818	S. V. Wilking, Roanoke	Huntington
819	O. B. Williams, Andrews	Huntington
820	G. G. Wimmer, Mt. Etna	Huntington
821	C. L. Wright, Huntington	Huntington
822	Ervin Wright, Huntington	Huntington
823	Geo. W. Copeland, Moorefield	Switzerland
824	A. A. Cecil, Muncie	Delaware
825	J. W. Clifford, Worthington	Greene
826	F. M. Hines, Auburn	Dekalb
827	U. G. Souder, Auburn	Dekalb
828	D. W. Sheek, Greenwood	Johnson
829	J. H. Lanam, Franklin	Johnson
830	L. L. Whitesides, Franklin	Johnson
831	D. L. Phipps, Whiteland	Johnson
832	Robert Stuart, Spiceland	Henry
833	A. R. Wyatt, LaGrange	LaGrange

No.	Name and Address	County Society
834	J. E. Rarick, Wolcottville	LaGrange
835	H. A. Beck, Lebanon	Boone
836	C. H. Smith, Lebanon	Boone
837	DeLaskie Smith, Lebanon	Boone
838	J. F. Brendel, Zionsville	Boone
839	W. H. Williams, Lebanon	Boone
840	Mary Van Nuys, Lebanon	Boone
841	A. P. Fitch, Crawfordsville	Boone
842	C. D. Umberhine, Reese Mills	Boone
843	J. R. Ball, Lebanon	Boone
844	C. Bassett, Thorntown	Boone
845	J. H. Black, Lebanon	Boone
846	Henry Ader, Somerset	Wabash
847	L. G. D. Balsbaugh, No. Manchester	Wabash
848	W. A. Domer, Wabash	Wabash
849	C. L. Dicken, LaFountain	Wabash
850	B. A. Houser, Wabash	Wabash
851	L. E. Jewett, Wabash	Wabash
852	L. W. Jordan, Wabash	Wabash
853	F. S. Kitson, No. Manchester	Wabash
854	P. G. Moore, Wabash	Wabash
855	L. F. J. Smith, Wabash	Wabash
856	Lorin W. Smith, Wabash	Wabash
857	James Wilson, Wabash	Wabash
858	N. H. Thompson, Wabash	Wabash
859	W. F. Batman, Ladoga	Montgomery
860	S. R. Peacock, Ladoga	Montgomery
861	W. G. Swank, Crawfordsville	Montgomery
862	J. R. Etter, Crawfordsville	Montgomery
863	E. W. Keegan, Crawfordsville	Montgomery
864	E. H. Cowan, Crawfordsville	Montgomery
865	P. J. Barcus, Crawfordsville	Montgomery
866	J. L. Beatty, Crawfordsville	Montgomery
867	S. L. Ensminger, Crawfordsville	Montgomery
868	J. F. Davidson, Crawfordsville	Montgomery
869	F. O. Schenck, Crawfordsville	Montgomery
870	G. T. Williams, Crawfordsville	Montgomery
871	J. C. Burkle, New Ross	Montgomery
872	J. P. Wolfe, New Market	Montgomery
873	K. K. Straughan, Waveland	Montgomery
874	A. N. Hamilton, Waynetown	Montgomery
875	H. M. Bounnell, Waynetown	Montgomery
876	R. B. Short, Bedford	Lawrence
877	A. J. McDonald, Bedford	Lawrence
878	W. H. Smith, Bedford	Lawrence
879	L. G. Boyd, Bedford	Lawrence
880	J. R. Pearson, Bedford	Lawrence
881	C. H. Emery, Bedford	Lawrence
882	F. S. Hunter, Bedford	Lawrence
883	J. B. Duncan, Bedford	Lawrence
884	M. Simpson, Bedford	Lawrence
885	E. E. Mitchell, Bedford	Lawrence
886	Harvey Voyles, Bedford	Lawrence
887	Jos. D. Heitger, Bedford	Lawrence
888	O. B. Norman, Bedford	Lawrence
889	G. L. Gibbons, Huron	Lawrence
890	A. W. Dierking, Oolitic	Lawrence
891	Claud Dollens, Avoca	Lawrence
892	Perry Woolery, Heltonville	Lawrence
893	W. C. Sherwood, Mitchell	Lawrence
894	J. A. Gibbons, Mitchell	Lawrence
895	T. W. Bullett, Rivervale	Lawrence
896	J. T. McFarlin, Williams	Lawrence
897	J. C. Kelley, Mitchell	Lawrence
898	C. E. Rariden, Bedford	Lawrence
899	E. L. Perkins, Bedford	Lawrence
900	S. W. Smith, Leesville	Lawrence
901	J. R. Andrews, Rivervale	Lawrence
902	Marc. L. Bond, Aurora	Dearborn
903	L. C. Cowen, Rising Sun	Dearborn
904	Wm. F. Duncan, Aurora, R. F. D.	Dearborn
905	John C. Elliott, Guilford	Dearborn
906	A. T. Fagaly, Lawrenceburg	Dearborn
907	W. H. Haynes, Aurora	Dearborn
908	W. C. Henry, Aurora	Dearborn
909	Robt. T. Neffner, Weisburg	Dearborn
910	O. S. Jaquith, Lawrenceburg	Dearborn
911	D. E. Johnston, Moores Hill	Dearborn
912	E. J. Libbert, Aurora	Dearborn
913	F. M. Mueller, Lawrenceburg	Dearborn
914	C. Newforth, Sunman	Dearborn
915	Geo. F. Smith, Lawrenceburg	Dearborn
916	Jas. F. Treon, Aurora	Dearborn
917	H. H. Sutton, Aurora	Dearborn
918	Geo. H. Stevenson, Rising Sun	Dearborn
919	John Elfers, Rising Sun	Dearborn
920	C. W. Shaw, Rising Sun	Dearborn
921	Wilber Robinson, New Alsace	Dearborn
922	S. M. McClure, Aurora	Dearborn
923	J. L. McElroy, Aurora	Dearborn
924	Edward R. Wallace, Aurora	Dearborn
925	Geo. Hansell, Aurora	Dearborn
926	Jas. Blackburn, Petersburg, Ky	Dearborn
927	G. G. Allred, Danville	Hendricks
928	Joel T. Baker, Danville	Hendricks
929	Thos. J. Barker, Danville	Hendricks
930	Thos. J. Beasley, Danville	Hendricks
931	Amos Carter, Plainfield	Hendricks
932	Ernest Cooper, Plainfield	Hendricks
933	A. W. Davidson, Brownsburg	Hendricks
934	L. F. Hicks, Stilesville	Hendricks
935	W. J. Hoadley, Danville	Hendricks
936	Stephen Hunt, Coatsville	Hendricks
937	Rilus E. Jones, Clayton	Hendricks
938	Maria Jessup, Camby	Hendricks
939	Wilson T. Lawson, Danville	Hendricks
940	John L. Marsh, Brownsburg	Hendricks
941	Wm. M. O'Brien, Danville	Hendricks
942	John S. Ragan, Plainfield	Hendricks
943	D. M. Reynolds, Clayton	Hendricks
944	E. Ray Royer, North Salem	Hendricks
945	O. T. Seamahorn, Pittsboro	Hendricks
946	Thos. G. Smith, Brownsburg	Hendricks
947	C. B. Thomas, Plainfield	Hendricks
948	W. H. Terrell, Pittsboro	Hendricks
949	Chas. A. White, Danville	Hendricks
950	E. E. Ash, Goshen	Elkhart
951	I. J. Becknell, Goshen	Elkhart
952	J. A. Cook, Goshen	Elkhart
953	C. S. Dreese, Goshen	Elkhart
954	H. W. Eby, Goshen	Elkhart
955	A. S. Hollingsworth, Goshen	Elkhart
956	M. K. Kreider, Goshen	Elkhart
957	W. B. Kreider, Goshen	Elkhart
958	H. K. Lemon, Goshen	Elkhart
959	D. L. Miller, Goshen	Elkhart
960	J. A. Snapp, Goshen	Elkhart
961	B. F. Whitmer, Goshen	Elkhart
962	A. C. Yoder, Goshen	Elkhart
963	G. W. Kirby, Goshen	Elkhart
964	W. P. Page, Goshen	Elkhart
965	A. J. Irwin, Goshen	Elkhart
966	G. A. Whippy, Goshen	Elkhart
967	M. T. Brumbaugh, Foraker	Elkhart
968	A. S. Sensenich, Wakarusa	Elkhart
969	S. C. Wagner, Wakarusa	Elkhart
970	Jas. Mathews, New Paris	Elkhart
971	E. D. Stuckman, New Paris	Elkhart
972	W. B. Christophel, New Paris	Elkhart
973	B. F. Teters, Middlebury	Elkhart
974	H. A. Barbour, Bristol	Elkhart
975	W. A. Price, Nappanee	Elkhart
976	M. D. Price, Nappanee	Elkhart
977	H. J. Defrees, Nappanee	Elkhart
978	J. S. Seabaugh, Nappanee	Elkhart
979	F. A. Benham, Elkhart	Elkhart
980	C. R. Bassler, Elkhart	Elkhart
981	F. N. Dewey, Elkhart	Elkhart
982	M. M. Eckelman, Elkhart	Elkhart
983	C. W. Frink, Elkhart	Elkhart
984	A. L. Fisher, Elkhart	Elkhart
985	J. C. Fleming, Elkhart	Elkhart

No.	Name and Address	County Society
986	C. F. Fleming, Elkhart	Elkhart
987	C. D. Goodrich, Elkhart	Elkhart
988	E. J. Hagenbaugh, Elkhart	Elkhart
989	C. W. Haywood, Elkhart	Elkhart
990	E. Holdeman, Elkhart	Elkhart
991	G. B. Hoopingarner, Elkhart	Elkhart
992	E. M. Hoover, Elkhart	Elkhart
993	A. T. Ingalls, Elkhart	Elkhart
994	B. F. Kuhn, Elkhart	Elkhart
995	R. L. Lockwood, Elkhart	Elkhart
996	R. M. Murphy, Elkhart	Elkhart
997	W. A. Neal, Elkhart	Elkhart
998	A. A. Norris, Elkhart	Elkhart
999	F. Randolph, Elkhart	Elkhart
1000	I. W. Short, Elkhart	Elkhart
1001	G. W. Spohn, Elkhart	Elkhart
1002	W. A. Stauffer, Elkhart	Elkhart
1003	H. O. Staufft, Elkhart	Elkhart
1004	J. A. Work, Elkhart	Elkhart
1005	J. A. Work, Jr., Elkhart	Elkhart
1006	E. R. Zimmerman, Elkhart	Elkhart
1007	B. H. Boone, Boggstown	Shelby
1008	Laura Carter, Shelbyville	Shelby
1009	H. M. Connelly, Shelbyville	Shelby
1010	Morris Drake, Shelbyville	Shelby
1011	T. G. Green, Shelbyville	Shelby
1012	G. I. Inlow, Blue Ridge	Shelby
1013	J. E. Keeling, Waldron	Shelby
1014	B. G. Keeney, Shelbyville	Shelby
1015	Samuel Kennedy, Shelbyville	Shelby
1016	W. C. McFadden, Shelbyville	Shelby
1017	W. H. Kennedy, Shelbyville	Shelby
1018	J. W. Parrish, Shelbyville	Shelby
1019	V. C. Patton, Morristown	Shelby
1020	Chas. Perry, Lewis Creek	Shelby
1021	D. A. Pettigrew, Flat Rock	Shelby
1022	H. E. Phares, Shelbyville	Shelby
1023	D. F. Randolph, Waldron	Shelby
1024	F. E. Ray, Shelbyville	Shelby
1025	T. R. Rubush, London	Shelby
1026	J. W. Snider, Fairland	Shelby
1027	M. M. Wells, Fairland	Shelby
1028	S. L. Stickler, Boggstown	Shelby
1029	R. E. Baker, Orleans	Orange
1030	C. E. Boyd, West Baden	Orange
1031	C. L. Boyd, Paoli	Orange
1032	G. G. Colglazier, Leipsic	Orange
1033	C. W. Dowden, West Baden	Orange
1034	J. R. Dillinger, French Lick	Orange
1035	F. E. Hammond, French Lick	Orange
1036	Mart Hassenmiller, West Baden	Orange
1037	G. D. Kahlo, French Lick	Orange
1038	Laban Lindley, Paoli	Orange
1039	S. L. Lingle, Paoli	Orange
1040	H. L. Miller, West Baden	Orange
1041	W. H. Patton, Orleans	Orange
1042	Lynn Rogers, French Lick	Orange
1043	W. W. Sloan, French Lick	Orange
1044	O. H. Stewart, Orleans	Orange
1045	S. F. Teaford, Paoli	Orange
1046	T. B. Ritter, Orleans	Orange
1047	J. W. Baxter, New Albany	Floyd
1048	J. E. Bird, New Albany	Floyd
1049	R. K. Brown, New Albany	Floyd
1050	C. P. Cook, New Albany	Floyd
1051	C. P. Davis, Galena	Floyd
1052	E. P. Easley, New Albany	Floyd
1053	C. C. Funk, New Albany	Floyd
1054	R. W. Harris, New Albany	Floyd
1055	John Hazelwood, New Albany	Floyd
1056	F. W. Hazelwood, New Albany	Floyd
1057	A. G. Kimberger, Galena	Floyd
1058	W. J. Leach, New Albany	Floyd
1059	Anna McKamy, New Albany	Floyd
1060	C. W. McIntyre, New Albany	Floyd
1061	Wm. Moore, New Albany	Floyd
1062	R. S. Rutherford, New Albany	Floyd
1063	H. B. Shacklett, New Albany	Floyd
1064	E. L. Sigmond, New Albany	Floyd
1065	W. L. Starr, New Albany	Floyd
1066	W. P. Tebault, New Albany	Floyd
1067	J. F. Weathers, New Albany	Floyd
1068	F. H. Wilcox, New Albany	Floyd
1069	W. C. Winstandley, New Albany	Floyd
1070	H. S. Wolfe, New Albany	Floyd
1071	John Wray, New Albany	Floyd
1072	C. R. Leuthardt, Galena	Floyd
1073	J. E. Lawson, New Albany	Floyd
1074	Alice Maas, New Albany	Floyd
1075	S. C. Beard, Vincennes	Knox
1076	N. E. Beckes, Vincennes	Knox
1077	C. W. Benham, Vincennes	Knox
1078	E. B. Powers, Vincennes	Knox
1079	C. L. Boyd, Vincennes	Knox
1080	D. M. Buley, Vincennes	Knox
1081	C. S. Bryan, Vincennes	Knox
1082	P. H. Caney, Vincennes	Knox
1083	W. H. Davenport, Vincennes	Knox
1084	L. J. Downey, Vincennes	Knox
1085	B. B. Griffith, Vincennes	Knox
1086	Silas Hall, Vincennes	Knox
1087	H. W. Held, Vincennes	Knox
1088	J. G. Jones, Vincennes	Knox
1089	A. B. Knapp, Vincennes	Knox
1090	Geo. Knapp, Vincennes	Knox
1091	E. Masgana, Vincennes	Knox
1092	H. D. McCormack, Vincennes	Knox
1093	J. N. McCoy, Vincennes	Knox
1094	J. D. McDowell, Vincennes	Knox
1095	M. M. McDowell, Vincennes	Knox
1096	T. J. McGowen, Vincennes	Knox
1097	Mary Michie, Vincennes	Knox
1098	S. A. Prather, Vincennes	Knox
1099	J. P. Ramsay, Vincennes	Knox
1100	J. W. Smadel, Vincennes	Knox
1101	J. F. Somes, Vincennes	Knox
1102	C. E. Stewart, Vincennes	Knox
1103	T. H. Maxedon, Vincennes	Knox
1104	J. A. Swartzel, Indianapolis	Knox
1105	A. W. Myers, Monroe City	Knox
1106	J. A. Scudder, Edwardsport	Knox
1107	J. L. Reeve, Edwardsport	Knox
1108	E. F. Small, Decker	Knox
1109	M. A. Johnston, Oaktown	Knox
1110	J. Ashby, Oaktown	Knox
1111	L. B. Staley, Bicknell	Knox
1112	T. M. Staley, Bicknell	Knox
1113	E. H. Tade, Wheatland	Knox
1114	R. S. Wood, Wheatland	Knox
1115	J. M. Atkinson, Eaton	Delaware
1116	C. J. Stover, Eaton	Delaware
1117	C. H. Wright, Yorktown	Delaware
1118	R. A. Smith, Knightstown	Henry
1119	J. W. Thompson, Garrett	DeKalb
1120	T. J. Stephenson, Lapel	Madison
1121	Chas. F. Williams, Anderson	Madison
1122	G. A. Whitledge, Anderson	Madison
1123	J. W. Crismond, Anderson	Madison
1124	L. F. Schmauss, Alexandria	Madison
1125	L. E. Cox, Greenwood	Franklin
1126	U. G. Whiting, Mt. Vernon	Posey
1127	T. M. Brenton, Osgood	Ripley
1128	L. L. Mattox, Geneva	Adams
1129	J. W. Vizard, Pleasant Mills	Adams
1130	D. D. Jones, Berne	Adams
1131	C. P. Bacon, Evansville	Vanderburgh
1132	J. N. Baughman, Evansville	Vanderburgh
1133	L. B. Bitz, Evansville	Vanderburgh
1134	L. D. Brose, Evansville	Vanderburgh
1135	G. W. Buckner, Evansville	Vanderburgh
1136	T. L. Bryan, Evansville	Vanderburgh
1137	D. B. Cain, Evansville	Vanderburgh

No.	Name and Address	County Society
1138	W. F. Cleveland, Evansville	Vanderburgh
1139	W. R. Cleveland, Evansville	Vanderburgh
1140	W. H. Coleman, Evansville	Vanderburgh
1141	Earl Conover, Evansville	Vanderburgh
1142	W. R. Davidson, Evansville	Vanderburgh
1143	F. L. Davis, Evansville	Vanderburgh
1144	H. T. Dixon, Evansville	Vanderburgh
1145	W. S. Ehrich, Evansville	Vanderburgh
1146	M. J. Compton, Evansville	Vanderburgh
1147	S. J. Eichel, Evansville	Vanderburgh
1148	W. H. Field, Evansville	Vanderburgh
1149	B. L. W. Floyd, Evansville	Vanderburgh
1150	W. A. Fritsch, Evansville	Vanderburgh
1151	L. E. Fritsch, Evansville	Vanderburgh
1152	W. H. Gilbert, Evansville	Vanderburgh
1153	J. F. Glover, Evansville	Vanderburgh
1154	G. F. Greenleaf, Evansville	Vanderburgh
1155	F. A. C. Hankins, Evansville	Vanderburgh
1156	C. B. Harpole, Evansville	Vanderburgh
1157	C. A. Hartley, Evansville	Vanderburgh
1158	C. W. Hartloff, Evansville	Vanderburgh
1159	A. M. Hayden, Evansville	Vanderburgh
1160	L. Heimann, Evansville	Vanderburgh
1161	M. D. Hudson, Evansville	Vanderburgh
1162	J. N. Jerome, Evansville	Vanderburgh
1163	G. C. Johnson, Evansville	Vanderburgh
1164	Geo. E. Jones, Evansville	Vanderburgh
1165	C. Kelsay, Evansville	Vanderburgh
1166	J. H. Kerth, Evansville	Vanderburgh
1167	A. J. Knapp, Evansville	Vanderburgh
1168	B. J. Knapp, Evansville	Vanderburgh
1169	Chas. Knapp, Evansville	Vanderburgh
1170	S. R. Laubscher, Evansville (R. F. D.)	Vanderburgh
1171	C. E. Laughlin, Evansville	Vanderburgh
1172	Wm. Laval, Evansville	Vanderburgh
1173	E. Linthicum, Evansville	Vanderburgh
1174	P. H. Linthicum, Evansville	Vanderburgh
1175	J. W. Lorenz, Evansville	Vanderburgh
1176	J. C. McClurkin, Evansville	Vanderburgh
1177	W. E. McCool, Evansville	Vanderburgh
1178	P. Y. McCoy, Evansville	Vanderburgh
1179	E. C. Macer, Evansville	Vanderburgh
1180	H. E. Nenneker, Evansville	Vanderburgh
1181	W. S. Pollard, Evansville	Vanderburgh
1182	W. S. Pritchett, Evansville	Vanderburgh
1183	M. Raydin, Evansville	Vanderburgh
1184	W. J. Reavis, Evansville	Vanderburgh
1185	P. C. Rietz, Evansville	Vanderburgh
1186	B. S. Rose, Evansville	Vanderburgh
1187	T. H. Taylor, Evansville	Vanderburgh
1188	G. W. Tepe, Evansville	Vanderburgh
1189	Jas. Thomas, Evansville	Vanderburgh
1190	D. G. Tweedall, Evansville	Vanderburgh
1191	G. W. Varner, Evansville	Vanderburgh
1192	E. J. Verwayne, Evansville	Vanderburgh
1193	C. G. Viehe, Evansville	Vanderburgh
1194	C. H. Viehe, Evansville	Vanderburgh
1195	R. W. Viehe, Evansville	Vanderburgh
1196	Edwin Walker, Evansville	Vanderburgh
1197	J. B. Weever, Evansville	Vanderburgh
1198	J. Y. Welborn, Evansville	Vanderburgh
1199	J. H. Willis, Evansville	Vanderburgh
1200	W. P. Woods, Evansville	Vanderburgh
1201	L. Worsham, Evansville	Vanderburgh
1202	G. M. Young, Evansville	Vanderburgh
1203	B. W. Begley, Inglefield	Vanderburgh
1204	W. F. Clippinger, Inglefield, R. F. D.	Vanderburgh
1205	J. W. Stork, Inglefield R. F. D.	Vanderburgh
1206	D. A. Cox, Howell	Vanderburgh
1207	H. C. Knapp, Howell	Vanderburgh
1208	J. W. Phares, Howell	Vanderburgh
1209	M. W. Rothrock, Howell	Vanderburgh
1210	H. L. Bernheimer, Terre Haute	Vigo
1211	D. A. Bethea, Terre Haute	Vigo
1212	W. E. Bell, Terre Haute	Vigo
1213	Richard Belt, West Terre Haute	Vigo
1214	J. R. Bloomer, Terre Haute	Vigo
1215	M. A. Boor, Terre Haute	Vigo
1216	David Bopp, Terre Haute	Vigo
1217	J. C. Bohn, Terre Haute	Vigo
1218	L. Z. Breaks, Terre Haute	Vigo
1219	A. H. Caffee, Terre Haute	Vigo
1220	B. V. Caffee, Terre Haute	Vigo
1221	C. S. Carmichael, Seeleyville	Vigo
1222	Ott Casey, Terre Haute	Vigo
1223	W. G. Crawford, Terre Haute	Vigo
1224	C. N. Combs, Terre Haute	Vigo
1225	M. R. Combs, Terre Haute	Vigo
1226	J. H. Cook, Terre Haute	Vigo
1227	J. A. Cooper, Terre Haute	Vigo
1228	G. W. Crapo, Terre Haute	Vigo
1229	R. J. Danner, West Terre Haute	Vigo
1230	S. C. Darroch, Cayuga	Vigo
1231	W. P. Darroch, Cayuga	Vigo
1232	C. H. Edwards, Terre Haute	Vigo
1233	O. E. Fink, Terre Haute	Vigo
1234	J. D. Foor, Blackhawk	Vigo
1235	D. H. Forsythe, Terre Haute	Vigo
1236	Jos. Frisz, Terre Haute	Vigo
1237	D. W. Hebble, Edwards P. O.	Vigo
1238	J. S. Hunt, West Terre Haute	Vigo
1239	W. O. Jenkins, Terre Haute	Vigo
1240	Geo. T. Johnson, Terre Haute	Vigo
1241	Jos. Knukler, Terre Haute	Vigo
1242	C. R. LaBier, Terre Haute	Vigo
1243	E. W. Layman, Terre Haute	Vigo
1244	R. H. Leavitt, Terre Haute	Vigo
1245	J. R. Love, Terre Haute	Vigo
1246	T. C. Louks, Seeleyville	Vigo
1247	L. P. Luckett, Terre Haute	Vigo
1248	E. B. McAllister, Terre Haute	Vigo
1249	E. C. McBride, Terre Haute	Vigo
1250	Jas. McCall, Terre Haute	Vigo
1251	W. L. Mapes, West Terre Haute	Vigo
1252	E. L. Mattox, West Terre Haute	Vigo
1253	D. B. Miller, Terre Haute	Vigo
1254	E. S. Niblack, Terre Haute	Vigo
1255	W. F. Payne, Prairie Creek	Vigo
1256	Walker Schell, Terre Haute	Vigo
1257	J. S. Shaffer, Terre Haute	Vigo
1258	V. A. Shanklin, West Terre Haute	Vigo
1259	O. R. Spigler, Terre Haute	Vigo
1260	T. C. Stunkard, Terre Haute	Vigo
1261	F. A. Tabor, Terre Haute	Vigo
1262	H. H. Ward, Coalmont	Vigo
1263	Jos. H. Weinstein, Terre Haute	Vigo
1264	F. E. Wiedemann, Terre Haute	Vigo
1265	L. J. Willien, Terre Haute	Vigo
1266	J. R. Wilson, Prairie Creek	Vigo
1267	Robert Lee Woodard, Terre Haute	Vigo
1268	Chas. Wyeth, Terre Haute	Vigo
1269	J. R. Yung, Terre Haute	Vigo
1270	J. H. Fears, South Bend	St. Joseph
1271	Chas. Stoltz, South Bend	St. Joseph
1272	J. A. Varier, South Bend	St. Joseph
1273	R. C. Shanklin, South Bend	St. Joseph
1274	C. E. Varier, South Bend	St. Joseph
1275	W. L. Owen, South Bend	St. Joseph
1276	J. W. Hill, South Bend	St. Joseph
1277	E. J. Lent, South Bend	St. Joseph
1278	W. A. Hager, South Bend	St. Joseph
1279	Chas. S. Bosenbury, South Bend	St. Joseph
1280	J. B. Berteling, South Bend	St. Joseph
1281	W. G. Wegner, South Bend	St. Joseph
1282	E. R. Borley, South Bend	St. Joseph
1283	H. F. Mitchell, South Bend	St. Joseph
1284	M. S. Denaut, Walkerton	St. Joseph
1285	S. W. Baer, South Bend	St. Joseph
1286	W. H. Baker, South Bend	St. Joseph
1287	H. T. Montgomery, South Bend	St. Joseph
1288	S. L. Kilmer, South Bend	St. Joseph

No.	Name and Address	County Society
1289	C. A. Warwick, South Bend	St. Joseph
1290	W. F. Miranda, Walkerton	St. Joseph
1291	J. B. Brown, Crumstown	St. Joseph
1292	S. A. Clark, South Bend	St. Joseph
1293	C. A. Daugherty, South Bend	St. Joseph
1294	E. H. Myers, South Bend	St. Joseph
1295	R. L. Sensenich, South Bend	St. Joseph
1296	W. A. Wickham, South Bend	St. Joseph
1297	F. J. Swantz, South Bend	St. Joseph
1298	T. A. Olney, South Bend	St. Joseph
1299	H. A. Fink, South Bend	St. Joseph
1300	C. M. Butterworth, South Bend	St. Joseph
1301	C. A. Rennoe, South Bend	St. Joseph
1302	C. E. Hansel, South Bend	St. Joseph
1303	H. Boyd-Snee, South Bend	St. Joseph
1304	A. E. Barber, South Bend	St. Joseph
1305	R. B. Dugdale, South Bend	St. Joseph
1306	A. C. Bartholomew, South Bend	St. Joseph
1307	G. A. Shultz, Lebanon	Boone
1308	G. K. Hurt, Thorntown	Boone
1309	T. A. Bonnell, Jamestown	Boone
1310	Oris E. Brendel, Zionsville	Boone
1311	E. L. Annis, LaPorte	LaPorte
1312	V. V. Bacon, Michigan City	LaPorte
1313	E. G. Blinks, Michigan City	LaPorte
1314	Bo C. Bowell, LaPorte	LaPorte
1315	Whitefield Bowers, Michigan City	LaPorte
1316	D. A. Buck, LaPorte	LaPorte
1317	C. E. Burleson, LaPorte	LaPorte
1318	C. W. Cleveland, Michigan City	LaPorte
1319	E. F. W. Crawford, Hanna	LaPorte
1320	M. L. Drescher, Michigan City	LaPorte
1321	W. Eberhardt, Michigan City	LaPorte
1322	J. H. Fargher, LaPorte	LaPorte
1323	B. W. Hollenbeck, Westville	LaPorte
1324	R. B. Jones, LaPorte	LaPorte
1325	J. J. Kerrigan, Michigan City	LaPorte
1326	J. N. Kelley, Westville	LaPorte
1327	J. N. Ledoetter, Michigan City	LaPorte
1328	F. R. Leeds, Michigan City	LaPorte
1329	H. H. Long, LaPorte	LaPorte
1330	F. V. Martin, Michigan City	LaPorte
1331	H. H. Martin, LaPorte	LaPorte
1332	J. S. Martin, Rolling Prairie	LaPorte
1333	F. A. McGrew, LaPorte	LaPorte
1334	J. W. Milligan, Michigan City	LaPorte
1335	Geo. R. Osborn, LaPorte	LaPorte
1336	J. B. Rogers, Michigan City	LaPorte
1337	R. B. Short, Union Mills	LaPorte
1338	J. W. Snyder, Michigan City	LaPorte
1339	A. R. Simon, LaPorte	LaPorte
1340	A. G. Tillotson, Michigan City	LaPorte
1341	Frank R. Warren, Michigan City	LaPorte
1342	J. E. Whitehill, Rolling Prairie	LaPorte
1343	J. V. Kerrigan, Michigan City	LaPorte
1344	W. W. Ross, LaPorte	LaPorte
1345	M. S. Smith, LaPorte	LaPorte
1346	O. L. Sutherland, LaPorte	LaPorte
1347	H. J. Thompson, LaPorte	LaPorte
1348	Wm. Walkinshaw, Stillwell	Laporte
1349	F. T. Wilcox, LaPorte	LaPorte
1350	L. A. Wilson, Michigan City	LaPorte
1351	B. E. Malone, Williston, N. D.	LaPorte
1352	H. N. Oliphant, Forrest	Clinton
1353	H. C. Bowers, Scircleville	Clinton
1354	N. W. Clark, Rossville	Clinton
1355	I. C. Lambert, Colfax	Clinton
1356	D. E. Cripe, Hillisburg	Clinton
1357	B. O. White, Sedalia	Clinton
1358	A. P. Parker, Kirklin	Clinton
1359	J. E. Robinson, Frankfort R. F. D. 1	Clinton
1360	S. B. Sims, Frankfort	Clinton
1361	J. H. Hadley, Frankfort	Clinton
1362	M. F. Boulden, Frankfort	Clinton
1363	G. W. Brown, Frankfort	Clinton
1364	Chas. Chittick, Frankfort	Clinton
1365	T. G. McDonald, Frankfort	Clinton
1366	Oliver Gard, Frankfort	Clinton
1367	A. H. Coble, Frankfort	Clinton
1368	W. J. Fernald, Frankfort	Clinton
1369	I. O. Allen, Centerville	Wayne
1370	H. C. Burcham, Richmond	Wayne
1371	S. J. Morrow, Richmond	Wayne
1372	R. Schillinger, Richmond	Wayne
1373	J. M. Wampler, Richmond	Wayne
1374	Wm. Spaulding, Richmond	Wayne
1375	J. B. Meek, Boston	Wayne
1376	Mary Wickens, Easthaven Richmond	Wayne
1377	Franklin Petry, Tolleston	Lake
1378	E. L. Dewey, Whiting	Lake
1379	E. R. Gordon, Hobart	Lake
1380	G. W. Miller, East Chicago	Lake
1381	Eleanor Scull, Hammond	Lake
1382	J. A. Graham, Hammond	Lake
1383	W. E. Greenwald, Indiana Harbor	Lake
1384	H. F. Walsh, Gary	Lake
1385	G. E. Paff, Gary	Lake
1386	G. H. Hoskins, Whiting	Lake
1387	W. L. Hughes, Indiana Harbor	Lake
1388	H. L. Idding, Merrillville	Lake
1389	J. C. Gibbs, Crown Point	Lake
1390	Geo. Orf, Indiana Harbor	Lake
1391	C. J. Adams, Kokomo	Howard
1392	S. R. Chancellor, Kokomo	Howard
1393	T. C. Cochran, Kokomo	Howard
1394	Edgar Cox, Kokomo	Howard
1395	L. Deweese, Hemlock	Howard
1596	N. C. Hamilton, Kokomo	Howard
1397	Wm. Harrison, Kokomo	Howard
1398	O. D. Hutto, Kokomo	Howard
1399	W. H. Martin, Kokomo	Howard
1400	A. A. Martin, Kokomo	Howard
1401	Will J. Martin, Kokomo	Howard
1402	Arthur Miller, Russiaville	Howard
1403	H. C. Miller, Greentown	Howard
1404	Geo. D. Marshall, Kokomo	Howard
1405	W. H. McClurg, Kokomo	Howard
1406	J. McLean Moulder, Kokomo	Howard
1407	D. C. Peters, Greentown	Howard
1408	E. U. Powell, Greentown	Howard
1409	J. L. Puckett, Kokomo	Howard
1410	W. I. Scott, Kokomo	Howard
1411	R. F. Scott, Kokomo	Howard
1412	R. H. Smith, Kokomo	Howard
1413	J. W. Wright, Kokomo	Howard
1414	LaMarr Knepple, Kokomo	Howard
1415	C. L. Ackerman, Houston	Jackson
1416	S. Applewhite, Seymour	Jackson
1417	G. O. Barnes, Seymour	Jackson
1418	J. H. Carter, Seymour	Jackson
1419	D. J. Cummings, Sr., Medora	Jackson
1420	D. J. Cummings, Jr., Ewings	Jackson
1421	B. Empson, R. F. D. Seymour	Jackson
1422	M. F. Gerrish, Seymour	Jackson
1423	C. E. Gillespie, Crothersville	Jackson
1424	G. G. Graessle, Seymour	Jackson
1425	N. Harrod, R. F. D. Brownstown	Jackson
1426	F. Heller, Brownstown	Jackson
1427	L. B. Hill, Seymour	Jackson
1428	J. M. Jenkins, Cortland	Jackson
1429	G. H. Kamman, Seymour	Jackson
1430	H. R. Kyte, Seymour	Jackson
1431	H. R. Luckey, Seymour	Jackson
1432	A. May, Crothersville	Jackson
1433	N. Matlock, Medora	Jackson
1434	A. G. Osterman, Seymour	Jackson
1435	D. L. Perrin, R. F. D. Seymour	Jackson
1436	D. H. Richards, Cortland	Jackson
1437	J. K. Ritter, Seymour	Jackson
1438	L. Ruddick, Seymour	Jackson
1439	J. M. Shields, Seymour	Jackson
1440	C. E. Sims, Kurtz	Jackson

No.	Name and Address	County Society
1441	S. W. Voris, Columbus	Bartholomew
1442	F. D. Norton, Columbus	Bartholomew
1443	A. J. Banker, Columbus	Bartholomew
1444	Geo. T. McCoy, Columbus	Bartholomew
1445	A. P. Roope, Columbus	Bartholomew
1446	R. E. Holder, Columbus	Bartholomew
1447	Paul C. Graham, Columbus	Bartholomew
1448	E. U. Wood, Columbus	Bartholomew
1449	D. J. Marshall, Columbus	Bartholomew
1450	A. M. Kirkpatrick, Columbus	Bartholomew
1451	J. W. Benham, Columbus	Bartholomew
1452	H. H. Kamman, Columbus	Bartholomew
1453	E. T. Francis, Columbus	Bartholomew
1454	Bertha A. Clouse, Columbus	Bartholomew
1455	Lotta A. Suverkrup, Columbus	Bartholomew
1456	Bart Fitzpatrick, Columbus	Bartholomew
1457	Wm. E. Wisner, Columbus	Bartholomew
1458	Wm. H. Butler, Columbus	Bartholomew
1459	E. G. Regennas, Hope	Bartholomew
1460	Geo. O. Cosby, Elizabethtown R. F. D. 18	Bartholomew
1461	O. A. DeLong, Azalia	Bartholomew
1462	John I. Maris, Waymansville	Bartholomew
1463	B. T. Daggy, Columbus R. F. D. 1	Bartholomew
1464	P. A. Hobbs, Taylorville	Bartholomew
1465	F. J. Beck, Hartsville	Bartholomew
1466	G. E. Reynolds, Columbus	Bartholomew
1467	G. W. Anglin, Warsaw	Kosciusko
1468	J. H. Bowser, Syracuse	Kosciusko
1469	C. W. Burket, Warsaw	Kosciusko
1470	N. A. Cary, Silver Lake	Kosciusko
1471	T. J. Clutter, Atwood	Kosciusko
1472	J. W. Dunfee, Etna Green	Kosciusko
1473	C. C. DuBois, Warsaw	Kosciusko
1474	P. G. Fermier, Leesburg	Kosciusko
1475	L. W. Ford, Syracuse	Kosciusko
1476	W. L. Hines, Warsaw	Kosciusko
1477	C. Norman Howard, Warsaw	Kosciusko
1478	B. F. Hoy, Syracuse	Kosciusko
1479	W. C. Landis, Claypool	Kosciusko
1480	Ira Leckrone, Silver Lake	Kosciusko
1481	C. E. Leedy, Pierceton	Kosciusko
1482	C. R. Long, Pierceton	Kosciusko
1483	J. H. Lyons, North Webster	Kosciusko
1484	A. C. McDonald, Warsaw	Kosciusko
1485	S. C. Murphy, Claypool	Kosciusko
1486	J. G. Nehrbas, Indianapolis	Kosciusko
1487	J. E. Potter, Milford	Kosciusko
1488	T. J. Shackelford, Warsaw	Kosciusko
1489	E. Stockberger, Milford	Kosciusko
1490	C. E. Thomas, Leesburg	Kosciusko
1491	J. L. Warvel, Sidney	Kosciusko
1492	M. G. Yocum, Mentone	Kosciusko
1493	F. J. Young, Milford	Kosciusko
1494	J. W. Heffley, Mentone	Kosciusko
1495	D. J. Loring, Valparaiso	Porter
1496	R. D. Blount, Valparaiso	Porter
1497	J. F. Take, Valparaiso	Porter
1498	G. H. Stoner, Valparaiso	Porter
1499	J. A. Ryan, Valparaiso	Porter
1500	S. J. Young, Valparaiso	Porter
1501	J. C. Carson, Valparaiso	Porter
1502	O. B. Nesbit, Valparaiso	Porter
1503	G. R. Douglas, Valparaiso	Porter
1504	H. M. Evans, Valparaiso	Porter
1505	H. E. Gowland, Valparaiso	Porter
1506	E. H. Powell, Valparaiso	Porter
1507	W. P. Robinson, Boonville	Warrick
1508	E. M. Folsom, Boonville	Warrick
1509	Dalton Wilson, Yankeetown	Warrick
1510	W. A. Hewins, Chandler	Warrick
1511	J. Zimmerman, Lynnville	Warrick
1512	P. N. Hoover, Boonville	Warrick
1513	J. G. Hoover, Boonville	Warrick
1514	W. P. Ford, Boonville	Warrick
1515	W. A. Hunt, Chandler R. F. D.	Warrick
1516	E. A. West, Folsomville	Warrick
1517	C. E. Springstun, Selvin	Warrick
1518	G. H. Kister, Elberfeld	Warrick
1519	O. O. Deforest, Boonville	Warrick
1520	G. F. Martin, Boonville	Warrick
1521	Wesley Wilson, Newburg R. F. D.	Warrick
1522	F. P. Adams, Elkhart	Elkhart
1523	E. H. Andrews, Peru	Miami
1524	O. U. Carl, Peru	Miami
1525	P. B. Carter, Macy	Miami
1526	P. G. Foust, Wabash	Miami
1527	J. C. Fretz, Deedsville	Miami
1528	E. H. Griswold, Peru	Miami
1529	C. J. Helm, Peru	Miami
1530	A. H. Kalbfleisch, Peru	Miami
1531	M. C. Kimball, Converse	Miami
1532	O. R. Lynch, Peru	Miami
1533	F. M. Lynn, Peru	Miami
1534	B. S. McClintick, Peru	Miami
1535	F. L. Resler, Amboy	Miami
1536	J. P. Spooner, Peru	Miami
1537	M. L. Wagner, Peru	Miami
1538	L. S. Wallace, Bunker Hill	Miami
1539	J. O. Ward, Peru	Miami
1540	J. E. Yarling, Peru	Miami
1541	M. H. Taylor, Macy	Miami
1542	E. S. Waymire, Peru	Miami
1543	R. R. Coble, Spencer	Owen
1544	N. D. Cox, Spencer	Owen
1545	H. A. Fox, Gosport	Owen
1546	O. F. Gray, Spencer	Owen
1547	W. R. Holtzman, Stinesville	Owen
1548	W. W. Harris, Ellettsville	Owen
1549	O. K. Harris, Ellettsville	Owen
1550	A. C. Kennedy, Patricksburg	Owen
1551	D. H. McDonald, Quincy	Owen
1552	Wm. McQueen, Cataract	Owen
1553	H. G. Osgood, Gosport	Owen
1554	Allen Pierson, Spencer	Owen
1555	F. M. Wiles, Indianapolis	Owen
1556	G. E. Willoughby, Gosport	Owen
1557	B. Yocum, Coal City	Owen
1558	H. R. Alburger, Bloomington	Monroe
1559	A. G. Pohlman, Bloomington	Monroe
1560	Homer Woolery, Bloomington	Monroe
1561	J. E. P. Holland, Bloomington	Monroe
1562	R. D. Smith, Bloomington	Monroe
1563	B. D. Myers, Bloomington	Monroe
1564	F. H. Batman, Bloomington	Monroe
1565	G. F. Holland, Bloomington	Monroe
1566	P. C. Holland, Bloomington	Monroe
1567	J. E. Luzadder, Bloomington	Monroe
1568	J. C. Ross, Bloomington	Monroe
1569	W. N. Culmer, Bloomington	Monroe
1570	J. F. Genolin, Bloomington	Monroe
1571	R. A. Akin, Bloomington	Monroe
1572	C. E. Harris, Bloomington	Monroe
1573	J. W. Wiltshire, Bloomington	Monroe
1574	J. P. Tourner, Bloomington	Monroe
1575	Chas. C. Strup, Bloomington	Monroe
1576	L. E. Whetsell, Bloomington	Monroe
1577	J. E. Moser, Stanford	Monroe
1578	Fletcher Gardner, Bloomington	Monroe
1579	C. C. Crum, Jeffersonville	Clark
1580	H. C. Sharp, West Baden	Clark
1581	Austin Funk, Jeffersonville	Clark
1582	E. N. Flynn, Jeffersonville	Clark
1583	David Cohen, Jeffersonville	Clark
1584	H. S. Murat, Jeffersonville	Clark
1585	H. H. Smith, Jeffersonville	Clark
1586	J. M. Howes, Sellersburg	Clark
1587	R. S. Taggert, New Washington	Clark
1588	J. M. Meloy, New Washington	Clark
1589	S. B. Elrod, Henryville	Clark
1590	Jas. H. Walker, Henryville	Clark
1591	David Coombs, Charlestown	Clark

No.	Name and Address	County Society
1592	D. C. Peyton, Jeffersonville	Clark
1593	Marshall Varble, Jeffersonville	Clark
1594	O. P. Graham, Jeffersonville	Clark
1595	I. N. Ruddell, Jeffersonville	Clark
1596	C. F. C. Hancock, Jeffersonville	Clark
1597	W. A. Hobday, Goldfield, Nevada	Clark
1598	S. M. Cotton, Goldsmith	Tipton
1599	A. S. Dickey, Tipton	Tipton
1600	W. F. Dunham, Kempton	Tipton
1601	S. G. Downing, Hobbs	Tipton
1602	H. S. Gifford, Sharpsville	Tipton
1603	H. E. Grishaw, Tipton	Tipton
1604	E. I. Hinkle, Goldsmith	Tipton
1605	T. W. Longfellow, Windfall	Tipton
1606	W. E. McKee, Tipton	Tipton
1607	M. V. B. Newcomer, Tipton	Tipton
1608	H. G. Read, Tipton	Tipton
1609	B. B. Thorp, Curtisville	Tipton
1610	G. L. Perry, Portland	Jay
1611	D. E. Mavity, Fowler	Benton
1612	A. LeSage, Fowler	Benton
1613	W. H. Taylor, Ambia	Benton
1614	P. C. Berns, Linton	Greene
1615	A. P. F. Gammack, South Bend	St. Joseph
1616	W. H. Hillman, South Bend	St. Joseph
1617	C. B. Crumpacker, South Bend	St. Joseph
1618	U. G. Galloway, South Bend	St. Joseph
1619	Charles Terry, South Bend	St. Joseph
1620	H. M. Miller, South Bend	St. Joseph
1621	O. Von Barandy, South Bend	St. Joseph
1622	S. P. Tracy, Walkerton	St. Joseph
1623	F. P. Eastman, South Bend	St. Joseph
1624	A. W. Brayton, Newton Claypool Building, Indianapolis	Marion
1625	Henry Lohrman, Newton Claypool Building, Indianapolis	Marion
1626	F. C. Heath, Newton Claypool Building, Indianapolis	Marion
1627	E. B. Mumford, Newton Claypool Building, Indianapolis	Marion
1628	Theo. Potter, Newton Claypool Building, Indianapolis	Marion
1629	T. B. Noble, Newton Claypool Building, Indianapolis	Marion
1630	J. D. Moschelle, Newton Claypool Building, Indianapolis	Marion
1631	W. S. Tomlin, Newton Claypool Building, Indianapolis	Marion
1632	W. P. Garshwiler, Newton Claypool Building, Indianapolis	Marion
1633	E. D. Clark, Newton Claypool Building, Indianapolis	Marion
1634	W. N. Wishard, Newton Claypool Building, Indianapolis	Marion
1635	J. J. Kyle, Newton Claypool Building, Indianapolis	Marion
1636	C. A. Pfafflin, Newton Claypool Bnilding, Indianapolis	Marion
1637	W. D. Hoskins, Newton Claypool Bnilding, Indianapolis	Marion
1638	F. B. Wynn, Newton Claypool Building, Indianapolis	Marion
1639	L. A. Ensminger, Newton Claypool Building, Indianapolis	Marion
1640	C. F. Voyles, Newton Claypool Building, Indianapolis	Marion
1641	A. L. Ayers, Newton Claypool Building, Indianapolis	Marion
1642	H. A. Moore, Newton Claypool Building, Indianapolis	Marion
1643	C. E. Ferguson, Newton Claypool Bnilding, Indianapolis	Marion
1644	R. H. Ritter, 224 N. Meridian St., Indianapolis	Marion
1645	H. S. Thurston, 224 N. Merdian St., Indianapolis	Marion
1646	A. C. Kimberlin, 224 N. Meridian St., Indianapolis	Marion
1647	A. B. Graham, 224 N. Meridian St., Indianapolis	Marion
1648	H. R. McKinstray, 224 N. Meridian St., Indianapolis	Marion
1649	F. R. Charlton, 224 N. Merdidan St., Indianapolis	Marion
1650	G. J. Cook, 224 N. Meridian St., Indianapolis	Marion
1651	D. F. Lee, 224 N. Meridian St., Indianapolis	Marion
1652	O. N. Torian, 224 N. Meridian St., Indianapolis	Marion
1653	Bernays Kennedy, 224 N. Meridian St., Indianapolis	Marion
1654	I. C. Barnes, 160 E. Market St., Indianapolis	Marion
1655	J. J. Boaz, 240 W. New York St., Indianapolis	Marion
1656	Max Bahr, Central Insane Hospital, Indianapolis	Marion
1657	Guido Bell, 431 E. Ohio St., Indianapolis	Marion
1658	J. V. Bower, Indianapolis, R. F. D.	Marion
1659	M. J. Barry, 857 W. New York St., Indianapolis	Marion
1660	Jacob Buehler, 206 E. McCarty St., Indianapolis	Marion
1661	E. W. Burris, 731 King Ave., Indianapolis	Marion
1662	L. O. Carson, New Augusta	Marion
1663	G. W. Combs, 329 N. Delaware St., Indianapolis	Marion
1664	C. J. Cook, 944 E. Wash. St., Indianapolis	Marion
1665	S. H. Caraway, 1810 Montealm St., Indianapolis	Marion
1666	C. Chamberlin, 3315 E. 10th St., Indianapolis	Marion
1667	E. J. Dubois, Court House, Indianapolis	Marion
1668	W. C. Engle, 3621 E. 25th St., Indianapolis	Marion
1669	S. E. Earp, 24½ Kentucky Ave., Indianapolis	Marion
1670	D. W. Fosler, 443 Highland Ave., Indianapolis	Marion
1671	H. E. Gabe, 911 Virginia Ave., Indianapolis	Marion
1672	C. S. Goar, 1134 S. Meridian St., Indianapolis	Marion
1673	W. I. Hoag, 2625 W. Wash. St., Indianapolis	Marion
1674	G. H. F. Honse, 3015 N. Illinois St., Indianapolis	Marion
1675	S. J. Hatfield, 2507 Gale St., Indianapolis	Marion
1676	Henry Heinrichs, 1679 Bellefountaine St., Indianapolis	Marion
1677	J. N. Hurty, State House, Indianapolis	Marion
1678	T. C. Hood, 224 N. Meridian St., Indianapolis	Marion
1679	H. G. Hamer, Newton Claypool Bldg., Indianapolis	Marion
1680	C. C. Haskell, College Ave., Indianapolis	Marion
1681	R. G. Hendricks, 217 N. Illinois St., Indianapolis	Marion
1682	Alfred Henry, 30 W. 24th St., Indianapolis	Marion
1683	T. W. Helming, 1136 S. East St., Indianapolis	Marion
1684	E. F. Hodges, 2 W. New York St., Indianapolis	Marion
1685	Fletcher Hodges, 2 W. New York St., Indianapolis	Marion

No.	Name and Address	County Society
1686	K. I. Jeffreies, 814 Virginia Ave., Indianapolis	Marion
1687	W. L. Jennings, Bridgport	Marion
1688	G. B. Jackson, Pythian Bldg., Indianapolis	Marion
1689	W. F. Johnson, 2102 Sugar Grove Ave., Indianapolis	Marion
1690	Jane M. Ketcham, 319 N. Penna St., Indianapolis	Marion
1691	T. C. Kennedy, Pennway Bldg., Indianapolis	Marion
1692	G. D. Kahlo, French Lick	Marion
1693	H. S. Leonard, 1908 Ashland Ave., Indianapolis	Marion
1694	Goethe Link, Pythian Bldg., Indianapolis	Marion
1695	E. O. Lindenmuth, Board of Trade Bldg., Indianapolis	Marion
1696	Wm. H. Long, 760 W. New York St., Indianapolis	Marion
1697	R. O. McAlexander, 320 N. Meridian St., Indianapolis	Marion
1698	M. W. McConnell, Lafayette	Marion
1699	O. C. Neier, 5502 E. Wash St., Indianapolis	Marion
1700	J. M. Phipps, Board of Trade Bldg., Indianapolis	Marion
1701	F. L. Pettijohn, 2454 Central Ave., Indianapolis	Marion
1702	J. H. Payne, Julietta	Marion
1703	Harry C. Parker, Board of Trade Bldg., Indianapolis	Marion
1704	H. O. Pantzer, 224 N. Meridian St., Indianapolis	Marion
1705	Barclay Ratliff, West Newton	Marion
1706	P. F. Robinson, 701 Bates St., Indianapolis	Marion
1707	L. H. Ratliff, Lawrence	Marion
1708	J. O. Stillson, 445 N. Penna St., Indianapolis	Marion
1709	Ada E. Schweitzer, State House, Indianapolis	Marion
1710	E. L. Swadener, Keshena, Wis	Marion
1711	John Spaulding, Tyro, Kan	Marion
1712	J. A. Sutcliffe, 6 Baldwin Block, Indianapolis	Marion
1713	A. E. Sterne, 1820 E. 10th St., Indianapolis	Marion
1714	M. A. Spink, 1140 E. Market St., Indianapolis	Marion
1715	Urbana Spink, 1140 E. Market St., Indianapolis	Marion
1716	M. J. Smith, The Alexandria, Indianapolis	Marion
1717	J. P. Simonds, State House, Indianapolis	Marion
1718	Wm. Shimer, State House, Indianapolis	Marion
1719	J. L. Thompson, American Central Life Bldg., Indianapolis	Marion
1720	A. L. Thurston, St. Vincent's Hospital, Indianapolis	Marion
1721	J. H. Taylor, The Chalfant, Indianapolis	Marion
1722	F. C. Walker, 2950 N. Illinois St., Indianapolis	Marion
1723	T. A. Wagner, I. O. O. F. Bldg., Indianapolis	Marion
1724	P. J. Watters, Central Insane Hospital, Indianapolis	Marion
1725	E. DeW. Wales, Board of Trade Bldg. Indianapolis	Marion
1726	J. T. Wheeler, 31 E. Ohio St., Indianapolis	Marion
1727	Geo. M. Wells, 2126 College Ave., Indianapolis	Marion
1728	H. H. Wheeler, 31 E. Ohio St., Indianapolis	Marion
1729	C. S. Woods, Court House, Indianapolis	Marion
1730	S. H. Malpas, 31 E. Ohio St., Indianapolis	Marion
1731	G. F. Edenharter, Central Insane Hospital, Indianapolis	Marion
1732	W. B. Kitchen, 31 E. Ohio St., Indianapolis	Marion
1733	M. O. Devaney, 519 Cottage Ave., Indianapolis	Marion
1734	J. C. Anderson, 130 S. Audubon Rd., Indianapolis	Marion
1735	S. A. Furniss, 132 W. New York St., Indianapolis	Marion
1736	E. A. Brown, 1066 Virginia Ave., Indianapolis	Marion
1737	C. O. Durham, 602 S. Illinois St., Indianapolis	Marion
1738	H. R. Allen 1320 N. Delaware St., Indianapolis	Marion
1739	H. H. Weer, 224 N. Meridian St., Indianapolis	Marion
1740	Horace E. Adams, Harlan	Allen
1741	Chas. E. Barnett, Fort Wayne	Allen
1742	Chas. G. Beall, Fort Wayne	Allen
1743	J. E. Bickel, Fort Wayne	Allen
1744	Ralph M. Bolman, Fort Wayne	Allen
1745	G. G. Brudi, New Haven	Allen
1746	A. P. Buchman, Fort Wayne	Allen
1747	Albert E. Bulson, Jr., Fort Wayne	Allen
1748	J. Carrithers Calvin, Fort Wayne	Allen
1749	W. D. Calvin, Fort Wayne	Allen
1750	W. W. Carey, Fort Wayne	Allen
1751	L. L. Culp, Fort Totten, N. D	Allen
1752	C. R. Dancer, Fort Wayne	Allen
1753	E. F. DeVaux, Fort Wayne	Allen
1754	Jas. M. Dinnen, Fort Wayne	Allen
1755	L. P. Drayer, Fort Wayne	Allen
1756	H. A. Duemling, Fort Wayne	Allen
1757	J. Frank Dinnen, Fort Wayne	Allen
1758	I. W. Ditton, Fort Wayne	Allen
1759	Calvin H. English, Fort Wayne	Allen
1760	Wm. Enslen, Fort Wayne	Allen
1761	Norma B. Elles, Fort Wayne	Allen
1762	A. E. Fauve, Fort Wayne	Allen
1763	J. H. Gilpin, Fort Wayne	Allen
1764	Bertha Goba, Fort Wayne	Allen
1765	H. E. Glock, Fort Wayne	Allen
1766	G. L. Greenwalt, Fort Wayne	Allen
1767	Frank Greenwell, Huntertown	Allen
1768	W. O. Gross, Fort Wayne	Allen
1769	Allen Hamilton, Fort Wayne	Allen
1770	S. H. Havice, Fort Wayne	Allen
1771	John Hetrick, Fort Wayne	Allen
1772	A. J. Kessler, Fort Wayne	Allen
1773	J. H. Hosford, Fort Wayne	Allen
1774	A. H. McBeth, Fort Wayne	Allen
1775	H. S. McBeth, Fort Wayne	Allen
1776	D. J. Mercer, Poe	Allen
1777	E. E. Morgan, Fort Wayne	Allen
1778	I. M. Myers, Maples	Allen
1779	D. D. Johnston, Fort Wayne	Allen
1780	G. W. McCaskey, Fort Wayne	Allen
1781	J. E. McHugh, Fort Wayne	Allen
1782	R. B. McKeeman, Fort Wayne	Allen
1783	E. J. McOscar, Fort Wayne	Allen
1784	C. C. F. Neischang, Fort Wayne	Allen
1785	L. S. Null, New Haven	Allen
1786	A. F. Phillips, Fort Wayne	Allen
1787	M. F. Porter, Fort Wayne	Allen
1788	H. J. Ranke, Fort Wayne	Allen
1789	B. W. Rhamy, Fort Wayne	Allen
1790	L. T. Rawles, Huntertown	Allen
1791	G. A. Ross, Fort Wayne	Allen
1792	Chas. J. Rothchild, Fort Wayne	Allen
1793	M. F. Schick, Fort Wayne	Allen
1794	A. L. Schneider, Fort Wayne	Allen
1795	A. E. Stoler, Fort Wayne	Allen

No.	Name and Address	County Society
1796	S. D. Sledd, Fort Wayne	Allen
1797	J. W. Squires, Fort Wayne	Allen
1798	H. E. Stineman, Monroeville	Allen
1799	C. B. Stemen, Fort Wayne	Allen
1800	G. B. Stemen, Fort Wayne	Allen
1801	Geo. J. Studer, Fort Wayne	Allen
1802	Philip Titus, Fort Wayne	Allen
1803	E. D. Smith, Leo	Allen
1804	H. VanSweringen, Fort Wayne	Allen
1805	B. VanSweringen, Fort Wayne	Allen
1806	G. VanSweringen, Fort Wayne	Allen
1807	E. M. VanBuskirk, Fort Wayne	Allen
1808	J. C. Wallace, Fort Wayne	Allen
1809	B. P. Weaver, Fort Wayne	Allen
1810	K. K. Wheelock, Fort Wayne	Allen
1811	Mary A. Whery, Fort Wayne	Allen
1812	W. P. Whery, Fort Wayne	Allen
1813	R. Parks White, Fort Wayne	Allen
1814	D. C. Wybourn, Sheldon	Allen
1815	C. P. Barrett, Oliver	Posey
1816	Frank Wade, Howe	LaGrange
1817	Walter E. Thornton, Montpelier	Blackford
1818	T. A. Custari, Linton	Greene
1819	T. A. Burkhart, Jasonville	Greene
1820	T. H. Payne, Delaware	Ripley
1821	F. A. Chenoweth, Winchester	Randolph
1822	C. R. Cox, Lynn	Randolph
1823	O. E. Current, Farmland	Randolph
1824	Howard Drumm, Parker City	Randolph
1825	J. H. Moroney, Winchester	Randolph
1826	G. C. Markle, Winchester	Randolph
1827	A. G. Rogers, Parker City	Randolph
1828	E. W. Rine, Winchester	Randolph
1829	C. E. Spitler, Saratoga	Randolph
1830	Granville Reynard, Union City	Randolph
1831	M. O. Cromer, Union City	Randolph
1832	John Nixon, Farmland	Randolph
1833	Chas. L. Botkin, Farmland	Randolph
1834	E. G. Reynard, Union City	Randolph
1835	F. McK. Ruby, Union City	Randolph
1836	Chas. E. Milligan, Winchester	Randolph
1837	C. A. Spitler, Saratoga	Randolph
1838	M. L. Hunt, Winchester	Randolph
1839	D. C. Roney, Ridgeville	Randolph
1840	T. W. Morgan, Spartanburg	Randolph
1841	Jas. F. Parks, Cumback	Daviess
1842	J. W. Anderson, Odon	Daviess
1843	Jerome DeMotte, Odon	Daviess
1844	Thos. B. Rankin, Odon	Daviess
1845	E. D. Millis, Plainville	Daviess
1846	Ora K. McKittrick, Plainville	Daviess
1847	Wm. O. McKittrick, Plainville	Daviess
1848	O. E. Lett, Montgomery	Daviess
1849	Maude Arthur, Washington	Daviess
1850	Jacob W. Clark, Washington	Daviess
1851	Henry Herr, Washington	Daviess
1852	Vance May, Washington	Daviess
1853	Geo. L. Parr, Washington	Daviess
1854	Chas. P. Scudder, Washington	Daviess
1855	D. B. Smott, Washington	Daviess
1856	T. F. Spink, Washington	Daviess
1857	Geo. W. Willeford, Washington	Daviess
1858	Ralph W. Willeford, Washington	Daviess
1859	Charles H. Yenne, Washington	Daviess
1860	W. M. Davis, Worthington	Greene
1861	J. B. Young, Worthington	Greene
1862	J. C. Grandstaff, Preble	Adams
1863	H. F. Bader, Oolitic	Floyd
1864	W. H. Reader, New Amsterdam	Harrison
1865	William Daniel, Corydon	Harrison
1866	P. H. Schoen, New Middletown	Harrison
1867	F. E. Wolfe, Corydon	Harrison
1868	John D. Byrne, Depauw	Harrison
1869	Frank T. Tyler, Crandall	Harrison
1870	Alfred Mathys, Mauckport	Harrison
1871	William E. Amy, Corydon	Harrison
1872	S. A. Smoots, New Middletown	Harrison
1873	John C. Bottorff, Corydon	Harrison
1874	Fred Bierly, Elizabeth	Harrison
1875	R. E. Dewees, Keystone	Wells
1876	F. A. Metts, Ossian	Wells
1877	E. W. Dyar, Ossian	Wells
1878	L. Mason, Bluffton	Wells
1879	Louis Severin, Bluffton	Wells
1880	A. W. Brown, Bluffton	Wells
1881	J. L. Redding, Bluffton, R. F. D. 3	Wells
1882	L. H. Cook, Bluffton	Wells
1883	S. A. Shoemaker, Bluffton	Wells
1884	Geo. E. Fulton, Bluffton	Wells
1885	C. H. Mead, Bluffton	Wells
1886	L. A. Spaulding, Bluffton	Wells
1887	F. W. Garrett, Liberty Center	Wells
1888	G. B. Morris, Poneto	Wells
1889	Edwin Rinear, Bluffton	Wells
1890	Thos. Morris, Mt. Zion	Wells
1891	J. W. McKinney, Bluffton	Wells
1892	I. N. Hatfield, Bluffton	Wells
1893	J. C. Fulton, Bluffton	Wells
1894	E. P. Davenport, Craigville	Wells
1895	M. W. McLain, Vera Cruz	Wells
1896	F. M. Dickason, Petroleum	Wells
1897	E. A. Crull, Fort Wayne	Allen
1898	L. L. Gardner, Fort Wayne	Allen
1899	J. E. McArdle, Fort Wayne	Allen
1900	J. M. Pullian, Fort Wayne	Allen
1901	M. I. Rosenthal, Fort Wayne	Allen
1902	John Shilling, Fort Wayne	Allen
1903	W. F. Schrader, Fort Wayne	Allen
1904	Edward Kruse, Fort Wayne	Allen
1905	C. H. Schenk, Berne	Adams
1906	Amos Renssser, Berne	Adams
1907	M. E. Renner, Urbana	Wabash
1908	W. H. Mills, Boonville	Warrick
1909	E. L. Youngblood, Boonville	Warrick
1910	J. T. Samples, Boonville	Warrick
1911	F. G. Thornton, Knightsville	Clay
1912	T. Roy Cook, Bowling Green	Clay
1913	H. J. Pierce, Cloverland	Clay
1914	G. M. Pell, Carbon	Clay
1915	H. R. Vandivier, Clay City	Clay
1916	P. H. Veach, Staunton	Clay
1917	Oliver James, Cory	Clay
1918	J. W. M. Huffman, Poland	Clay
1919	M. H. Young, Harmony	Clay
1920	Harry Elliott, Brazil	Clay
1921	J. D. Sourwine, Brazil	Clay
1922	J. L. Lambert, Brazil	Clay
1923	G. W. Finley, Brazil	Clay
1924	H. L. Muncie, Brazil	Clay
1925	G. C. Boyer, Brazil	Clay
1926	L. S. Hirt, Brazil	Clay
1927	W. H. Orr, Brazil	Clay
1928	J. A. Rawley, Brazil	Clay
1929	J. F. Smith, Brazil	Clay
1930	C. C. Sourwine, Brazil	Clay
1931	Frederick Nussel, Brazil	Clay
1932	L. L. Williams, Brazil	Clay
1933	J. C. Gifford, Brazil	Clay
1934	S. G. Hollingsworth, Brazil	Clay
1935	C. W. Schwartz, Huntingburg	Dubois
1936	A. G. Wollenmann, Ferdinand	Dubois
1937	E. E. Schriefer, Ferdinand	Dubois
1938	Victor Knapp, Ferdinand	Dubois
1939	Dr. Farris, Hillham	Dubois
1940	A. F. Gugsell, Jasper	Dubois
1941	John P. Salb, Jasper	Dubois
1942	E. A. Sturm, Jasper	Dubois
1943	Leo A. Salb, Jasper	Dubois
1944	C. R. Ramsbrok, Huntingburg	Dubois
1945	H. C. Knapp, Huntingburg	Dubois
1946	Emerson Barnum, Manilla	Rush
1947	J. D. Green, Manilla	Rush

No.	Name and Address	County Society
1948	H. H. Elliott, Glenwood	Rush
1949	E. J. T. Paxton, Glenwood	Rush
1950	C. S. Houghland, Milroy	Rush
1951	J. R. Hume, Milroy	Rush
1952	C. L. Rea, Falmouth	Rush
1953	C. L. Smullen, Mays	Rush
1954	S. C. Thomas, Milroy	Rush
1955	R. T. Blount, Rushville	Rush
1956	J. F. Bowen, Rushville	Rush
1957	W. S. Coleman, Rushville	Rush
1958	F. H. Green, Rushville	Rush
1959	L. M. Green, Rushville	Rush
1960	F. G. Hackleman, Rushville	Rush
1961	H. V. Logan, Rushville	Rush
1962	C. H. Parson, Rushville	Rush
1963	J. C. Sexton, Rushville	Rush
1964	W. C. Smith, Rushville	Rush
1965	W. H. Smith, Rushville	Rush
1966	D. D. VanOsdol, Rushville	Rush
1967	E. I. Wooden, Rushville	Rush
1968	R. M. Reagan, Monon	White
1969	W. B. Morris, Chalmers	White
1970	W. A. Spencer, Wolcott	White
1971	A. J. Blickenstaff, Wolcott	White
1972	M. T. Didlake, Monticello	White
1973	H. B. Gable, Monticello	White
1974	G. R. Coffin, Monticello	White
1975	A. B. Gray, Monticello	White
1976	Grant Goodwin, Monticello	White
1977	H. R. Minnick, Idaville R. F. D.	White
1978	Walter McBeth, Burnettsville	White
1979	J. P. Galbreth, Burnettsville	White
1980	O. O. Alexander, Terre Haute	Vigo
1981	D. T. Miller, Terre Haute	Vigo
1982	C. M. DePuy, Riley	Vigo
1983	C. C. Givens, Lewis	Vigo
1984	D. C. Schaff, Clinton	Vigo
1985	Millard Knowlton, 105 E 22d St., New York City	Vigo
1986	James W. Brunker, Riley	Vigo
1987	W. R. Mattox, Terre Haute	Vigo
1988	W. D. Asbury, Coalmont	Vigo
1989	H. S. Gifford, Sharpsville	Tipton
1990	M. T. Ploughe, Kempton	Tipton
1991	F. R. Burdeno, Garrett	Dekalb
1992	J. A. Clevenger, Garrett	Dekalb
1993	Wm. P. Harter, Anderson	Madison
1994	John C. Armington, Anderson	Madison
1995	S. C. Wilson, Anderson	Madison
1996	F. G. Keller, Alexandria	Madison
1997	L. H. Kelley, Hammond	Lake
1998	J. A. Craig, Gary	Lake
1999	J. A. Teegarden, Indiana Harbor	Lake
2000	Phillip Warter, Evansville	Vanderburg
2001	Thomas Macer, Evansville	Vanderburg
2002	O. H. Edmonds, Frankfort	Clinton

INDIANAPOLIS MEDICAL SOCIETY

Meeting of Nov. 15, 1910

Society was called to order by the president, Dr. Earp. Dr. Wynn, chairman of the committee on Public Health in Legislation, spoke of the coming visit to this city of Dr. Probst, chairman of the Ohio State Board of Health. It had been decided to hold a public meeting, to be addressed by Dr. Probst. On motion the work of the committee was approved, and it was decided to arrange for this meeting on one of the regular meeting nights in December, and to use every means to arouse public interest and attendance at this meeting.

The paper of the evening was read by Dr. R. S. Chappel. Subject, "The Malingerer."

See abstract appended.

DISCUSSION

Dr. Link: Malingering is a very live subject to every practitioner of medicine, and to every charity worker. It is both interesting and surprising to watch the ingenuity and knowledge of symptoms shown by some patients in simulating diseases. His work on the pension board has brought him into contact with a great many such cases, but it should be stated that while there are a great many malingerers on the pension roll today, these have been placed there, not by pension boards, which have been either deceived, or have been dishonest, but in almost every instance through political influence in securing special action of Congress. Much of the present expert witness testimony encourages malingering, and teaches the art of malingering. It is an unfortunate fact, that unscrupulous physicians can be found, who do this thing deliberately, and that in other cases they are not able to see the true condition, and are made innocent aids in dishonesty. The remedy of this is the appointment by the courts of a commission composed of competent medical men, who shall take up cases and pass on the questions which come before the court.

Dr. Neu: While there are real cases of malingering, physicians do not meet such cases as often as might be inferred from the talk about it. There is need for the greatest care and patience in making a diagnosis of malingering, since it has happened all too frequently that alleged malingerers have later on revealed a very positive lesion. In the real cases there is almost invariably some discrepancy between the symptoms complained of, and the physical findings, which can not be reconciled, and which reveals the real nature of the condition. The difficulty one encounters in properly interpreting these cases, is shown by a recent case of his own, in which a man was struck on the nose in a fight. He apparently recovered entirely but a few days later developed aphonia, paralysis of the legs and loss of sense of pain. All these pains were attributed to the injury. At the present time it is impossible to say, whether the nervous manifestations are due to real lesions or are hysterical.

Dr. J. H. Ford: There are two classes of malingerers. First: Those who are honest in their mistaken belief, that they are victims of a disease or injury. Second: those who are consciously and purposely simulating. Objective symptoms and signs may be accurately and easily tested, but subjective, such as a complaint of pain, are more difficult to interpret. If a patient complains of pain, if the attention is diverted rather suddenly to another portion of his body by a blow, or some other trick, the pain may be entirely absent in the region originally complained of. The cases presenting claims of loss of sight and hearing, are the most difficult to understand, since such loss may be either real, may be hysterical, or may be wholly false. The whole consideration of pecuniary reward enters into and complicates injuries in our modern industrial situation. Malingering is becoming more frequent and more skilful. Dr. Ford believes the remedy is found in compulsory insurance laws, which Germany is now trying out.

Dr. Noble: In addition to the different cases of malingerers that have been mentioned, there is one other which should be considered. The members of this class really possess a real lesion, but feign many and diverse symptoms. In his experience this has been the hardest class of individuals to deal with. The appear-

ance of a lesion is always in their minds coincident with the injury or disease, but it can many times be proved that the lesion found must have antedated the injury or illness, or can have no possible connection with the symptoms complained of. This was illustrated by a recent experience of his, in examining a woman who claimed to have been paralyzed, and to have sustained damage to the pelvic organs from an injury. She had sustained a broken clavicle, but it could be stated positively that the fixed and retroverted uterus must have been present long before the injury occurred. In this case it was found that a neurotic young woman had been deliberately schooled in malingering by an unscrupulous doctor, and a more unscrupulous lawyer.

Dr. Charlton spoke of the interest this subject aroused outside of the medical profession, and its appearance in current literature. Jacobs, an English writer, in his collection of short stories, entitled "Many Cargoes," has most amusingly dealt with this phase of life. A physician can not be too careful in considering a patient a malingerer, as it has happened with discreditable frequency that real lesions have been overlooked.

Dr. Wynn referred to the quickness and constancy with which an individual's mind turned to the question of damages when an accident occurred. The rapid concentration of wealth, the active participation in politics by corporations, the widespread evidence of corporate greed, and lack of conscience has aroused resentment and antagonism. It seems to be that most of the people look on the large business firms as invariably dishonest, and therefore the legitimate prey of an injured employee. This feeling leads men to make every attempt to get from such moneyed interests every cent they can, if they are injured while in the employ of such interests. We need a higher morality and a softer conscience in business and politics to develop a kindlier feeling between citizen and citizen, and employer and employee. Much malingering is due to persistent suggestion. No better conditions for suggestive influence or for the full effect of suggestive influence can be imagined, than the surrounding of an injured person with unscrupulous lawyers and ignorant or solicitous friends. Under such circumstances it is not surprising if a psychosis is occasionally developed.

Dr. McKinstray: There has been a great deal of criticism of the family physician for his part in these unfortunate cases, yet he is in the great majority of instances innocent of any intentional wrong doing. It is not difficult to see how his deep interest in the patient and the family might warp his judgment and lead him into error.

Dr. Chappel closed the discussion and the Society adjourned. R. H. Ritter, Secretary.

ABSTRACT—THE MALINGERER

Malingering has been practiced since the beginning of time. It is found at all ages and even appears in lower animals at times. In certain conditions as in the Army service, it has become less than heretofore, because of improvements in the treatment and supplies furnished soldiers. It has become less gross and glaring, and much of it is more easily detected because of the introduction of such instruments of precision as the clinical thermometer, microscope, the laryngoscope and surgical anesthesia.

Before concluding that the individual is malingering it is usually better to reserve judgment for a time until opportunity can be obtained of studying the case in all its bearings. Careful examination conducted privately is of greatest importance. The subject should be impressed with the hopelessness of his end.

Individuals who are feigning illness are usually adverse to active treatment, while the possessor of real illness easily accepts almost any suggestion.

A form of malingering frequently seen is the exaggeration of a small real lesion. The family physician is not infrequently imposed on and is honestly mistaken in his views. The most flagrant examples of feigning are met with among those injured, who desire damages.

Meeting of November 22, 1910

Meeting was called to order by the president, Dr. Earp. Dr. Dodds read a paper entitled "Syphilis of the Lungs."

See abstract appended.

DISCUSSION

Dr. E. O. Lindemuth: Syphilis of the lung is either very rare, or is rarely recognized. The diagnosis is extremely difficult, and while the experience of the writer had been unusual, it had not aided much in clearing up the diagnosis. When there is a clear history of infection, and tuberculosis is suspected and can not be positively demonstrated, a provisional diagnosis of syphilis may be cautiously made. Attempts have been made to describe differences in the symptoms of the diseases but so far this has not given very great diagnostic aid. In his opinion there are many more cases of associated tuberculosis and syphilis than is commonly admitted. Ordinarily when a diagnosis of the former infection is made, the examination stops there and the lungs are not examined carefully. Probably if this were done oftener, and more carefully, signs in the lungs would be found oftener.

Dr. C. R. Sowder: Dr. Dodds' experience has been unusually wide, but there must still remain a certain element of doubt, since none of the findings were corroborated by post-mortem examinations. In more than 3,000 autopsies at Johns Hopkins, only twelve cases were found to have lesions of the lung which were syphilitic, and this shows the rarity with which lesions undoubtedly occur. It must be that lesions of the lung occur most frequently in old untreated, or improperly treated cases. Diagnosis must be made with the greatest care, and so far, the only positive corroborative evidence is the therapeutic test. Where there is a strong and well justified suspicion that there is a specific basis for the lung lesion, the therapeutic test should be applied. Although the occurrence of this lesion is rare, it must be kept in mind in differentiating pulmonary or lung conditions.

Dr. R. H. Ritter: He knows practically nothing about syphilis of the lung. There is no real differential diagnosis. The modern widespread and intense agitation over the subject of tuberculosis, has rather obscured every other lesion of the lung, and the practitioner is too prone to rest with a diagnosis of tuberculosis, whenever any lesion of the lung can be demonstrated. However, the fact that specific lesions of the lung may occur should not be lost sight of. When real tuberculosis can not be definitely proved, and the suspicion of syphilis is aroused, antisyphilitic treatment should be immediately begun and thoroughly tried out.

Dr. John J. Kyle called attention to the fact that several years ago he reported a case of stricture of the bronchus which he had treated by means of a bronchoscope and dilating bougies. This he considered a syphilitic lesion, but other members of the society had not taken this view of it, on account of the supposed rarity of such lesions of the lung. The paper of this evening strengthened his belief that this was the condition with which he was dealing at that time. The possibility of syphilis as a cause of bronchus stricture should not be overlooked.

Dr. Potter: It is not probable that syphilis of the lung is really much more frequent than is found or is diagnosed since the reports from accurate clinicians and institutions, where autopsies are frequently and carefully made, report very few cases. In spite of this fact, however, he believes that syphilis does play a larger part in lung conditions than the reports would indicate, that a syphilitic taint or a background exists in many cases of tuberculosis, and other diseases of the lung which markedly interferes with the success of the treatment directed alone to the tuberculosis. Under proper antisyphilitic treatment this taint may be removed, the general welfare markedly improved and the therapeutic measures directed to the obvious lesion become far more effective. There is one diagnostic fact unexplained to be sure, but nevertheless true, that tuberculosis has a marked predilection for the upper part of the lungs while syphilis seeks out the lower parts and roots of the lungs. It should not be forgotten that Wright's mercurial treatment for tuberculosis was carried out in a Naval Hospital among a class of patients which are notoriously syphilitic. It is a fair presumption then, that the failure of this treatment in other hands was due to the absence of syphilitic background in the cases treated. There is a frequently repeated belief, the basis for which is hard to understand, that both syphilis and actinomycosis responded to the tuberculin test. In a fairly large series of cases, both in private practice and in the hospital, this has not been borne out, and he still believes in the value and reliability of the tuberculin test. In another series of known syphilitics, he got a reaction to tuberculin in about 25 per cent., but this is really not greater than would be found in a similar series of apparently normal individuals. In view of the frequent occurrence of mild and unrecognized tubercular lesions, and the concurrence of syphilis and tuberculosis, the occasional reaction to tuberculin in syphilis subjects can be easily explained. Often a positive Wassermann reaction does not prove that in a given case syphilis is responsible for the lung symptoms because of the possibility of a tuberculous infection engraved on a syphilis subject. We are therefore forced to the conclusion that the only evidences in the doubtful cases is to be obtained by the therapeutic test.

Dr. Charlton referred to the fact that the mercurial treatment of tuberculosis had failed utterly in the Army hospital for consumptives. Almost every writer since then has had the same lack of success, and many are even urging the disuse of mercury because of actual harm done in tubercular subjects.

Dr. Dodds, in closing the discussion, said that all the cases he had reported, had either not been treated at all for syphilis, or had received very improper treatment. He had had the interesting experience of treating in the Indianapolis Tuberculosis clinic, two patients who had come from the Naval Hospital where they had been under Dr. Wright. Both left because they would not endure the pain and discomfort from the treatment. Both were salivated, both failed rapidly, had hemorrhages and died in a short time. In the first burst of enthusiasm over the use of mercury in tuberculosis, he had tried this in a few patients in the tuberculosis clinic, but the results were so unfavorable that it was soon discontinued. In his paper he avoided all reference to the various tuberculin reactions, but since the matter had been mentioned in the discussion, he would say that his belief, based on his experience with the cutaneous tuberculin reaction, is they were valueless and at times positively confusing.

The society then adjourned.

R. H. Ritter, Secretary.

SYNOPSIS ON PAPER OF SYPHILIS OF THE LUNGS

In this discussion I wish only to describe those conditions found in the lungs of patients suffering from acquired syphilis. In this class we find three varieties: first, gumma; second, changes in the connective tissue and third, parenchymatous changes.

In view of the impossibility in making an accurate analysis of the symptoms, any attempt to distinguish clinically between the various pathologic processes would be impracticable. It is impossible during life to distinguish individual gummatous nodules in the lungs, even when they are of enormous size, from simple fibrous thickening due to peri-bronchitis or as the gummatous nodules are associated with fibrous hyperplastic processes. These processes may be so extensive as to include an entire pulmonary lobe.

When this disease of the lungs develops in persons who have acquired lues it is in the tertiary stage of the disease, consequently the pulmonary changes attributable to syphilis generally occur a number of years after the initial sore. We speak of them as late manifestation, but it is well to remember that by late is not necessarily meant late in point of time.

"It is hardly possible to clinically consider more than two kinds of syphilitic diseases of the lungs, namely: (1) syphilitic pneumonia; (2) chronic, fibrous, hyperplastic consolidations which mostly originate in the bronchi and in the peribronchial connective tissue, sometimes associated with the presence of gummy nodules."

The combination of syphilis and tuberculosis is to be taken into consideration. Potain treats the subject from two points of view: (1) syphilis occurring in a person known to be tuberculous; (2) tuberculosis occurring in a known syphilitic.

In early tuberculosis of the lungs the area involved in the pathologic process is usually definitely circumscribed and is mostly in the alveolar tissue. Syphilis on the contrary is usually characterized by grosser changes which involve large areas in the lung more especially the bronchial structure than the alveolar. This bronchial involvement becomes so extensive as to inhibit respiratory sounds in the lobe involved. In addition to these subjective symptoms the objective symptoms are more violent and pronounced than in early phthisis. The amount of expectoration is enormously greater in syphilis than in early tuberculosis.

The diagnosis is possible only in a limited number of cases and even then the conditions must be favorable and the diagnosis must be arrived at by exclusion.

It is interesting to know that the administration of potassium iodid in pulmonary tuberculosis increases the local symptoms very materially. It stimulates the expectoration and increases the number of adventitious sounds in the tuberculous areas. This fact is often made use of in the doubtful apical catarrh as a means of differentiating tubercle from non-tubercle involvment. In syphilitic disturbance of the lungs we find that the administration of potassium iodid in enormous doses produces the rapid disappearance of both subjective and objective symptoms. This fact is remarkable and most astonishing.

ALLEN COUNTY

Fort Wayne Medical Society

Meeting of Jan. 24, 1911

Society met in regular session with eighteen members present. Clinical Cases. Dr. Wallace reported the case of a man who applied Harrington solution to the scrotum for the cure of pediculi pubic, with resulting chemical dermatitis. The condition was quite severe, involving prepuce. Directed patient to apply prescription of lead water and tincture of opium. Asks if any other member has had such a case, and the treatment employed.

Dr. C. E. Barnett said, we know that we cannot use the ordinary irritating solutions in cleansing the scrotum. The use of these irritating antiseptics, by causing irritation of the parts, defeats the purpose for which they are used, favoring sepsis instead of antisepsis. Uses only boric acid solution before operations on the scrotum, for cleansing purposes.

Dr. McCaskey read a paper on "Brain Tumor"; localization illustrated by Fuller's casts. Dr. McCaskey said in part that the existence or nonexistence of brain lesion may be an easy or a difficult problem. Headache, vertigo and vomiting so common in brain disease may also be present in other conditions. The same may be said of psychical disturbances. The persistent recurrence of symptoms of this sort not accounted for by other disturbances of health, and proving intractable to treatment, should direct attention to the possibility of organic brain disease. Brain disease may frequently present recurring symptoms of this type, especially in the early stage, owing to arrest of growth and the adjustment of intercranial relations to new conditions. The nature of the lesion requires the differentiation from abscess, hemorrhage and even hydrocephalus. Slight recurring capillary hemorrhage might very closely simulate a progressively growing neoplasm. He believes that brain tumor is more common than has heretofore been thought the case. A study of 3150 cases of disease at Johns Hopkins Hospital shows that 1.7 per cent. were found to be brain tumors. Most cases are seen by general practitioners and treated for various conditions, many cases running their entire course unrecognized. Oppenheim says that "when a general practitioner makes a statement that he has not seen a case of brain tumor in his practice, it means that they have passed through his hands without a diagnosis being made." Many cases are living to-day after removal of braiu tumors. One of the series of twenty-four cases of brain tumor (which is the basis of this paper) was operated nearly ten years ago, and a large glioma weighing nearly two ounces was removed by Dr. Porter from the deeper portion of the hemisphere. This patient is alive and well. In some cases the tumor is substantially latent until late in its course. Cites cases in which this fact was evident, one case presenting a convulsion as the first evidence of a brain lesion. In other cases hemorrhage due to rupture of adjacent blood-vessels may be the first indication of brain lesion. In still others an unexpected brain tumor may be found at autopsy. Tumors which pursue a latent course are located in the so-called silent areas of the brain. It is surprising, however, to what extent certain highly functional centers and parts will suffer damage by pressure or sclerosis without responding in the way of localizing symptoms. The problems which present themselves in dealing with this class of cases may be grouped under four heads: (1) Is there organic brain disease; (2) What is its nature; (3) What is its exact location; and (4) What is the best treatment. Special consideration should be given the presence of choked disc in these cases. The presence of this single symptom does not prove brain tumor, nor its absence exclude it, taken alone, but taken in conjunction with other symptoms it may easily be a determiuing factor in deciding the diagnosis. Intracrauial pressure from the increasing size of the neoplasm is the most probable causative factor in the production of choked disc. The presence of toxic substances due to the reversal of the circulating current may be an auxiliary factor in its production. No case presenting symptoms of brain tumor should go without ophthalmoscopic examination by a competent person. The use of tuberculin and Wassermann reactions are essential in the diagnosis of certain cases. Motor symptoms are, perhaps, the most definite and reliable for localizing purposes. When definite motor symptoms occur they may with confidence be referred to a lesion of the Rolandic zone or some part of the path leading to the cross pyramidal tract. Exhibited brain in which tumor was found at autopsy, deep in hemisphere. Gave no response to electrical stimulation. Tumor was located under triangular portion of falx and was not located at operation.

Dr. Porter said that the presence of psychical symptoms without definite localizing symptoms, i. e., paralysis, etc., is strong evidence indeed of lesion in the so-called silent areas of the brain. Reported a case in which a collection of pus in this area produced imbecility. Another point, in the case shown, there was no excuse for missing this tumor, both of us should have known that the tumor was not cortical but deeper. There was complete hemiplegia, which meant either one of two things, diffuse lesion of the cortex (and diffuse lesion was not noted on opening the skull) or a lesion lower down, involving the fibers at a point where they converge. Given a gross lesion or a lesion with widespread symptoms, means one of two things, either large lesion or lesion at a point of convergeuce of the fibers. Acute hydrocephalus was due in this case to closing off of the forameu of Munro. This is the second tumor located in this place, involving the same centers, in which electrical stimulation failed to give any response. Both were deep seated tumors. The reason why this tumor could not be located with the probe was because it was too deep. One of the best methods of brain tumor localization at operation is blunt pointed probe. When probe comes upon tumor the resistance is increased. A tumor of this variety can be enucleated by locating with probe and shelling out growth with finger. In the history of this case, close connection exists with the history of injury

received by a fall from a hammock and the development of paresis. There should be a distinction between tumors of the brain and those involving the pituitary body—the symptoms in these cases are due to disturbance of secretion of the pituitary body, just as the symptoms present themselves in disturbance of the thyroid gland.

Discussion closed by Dr. McCaskey:

Dr. Rawles presented a paper on "Symptoms of Thyroid Disturbances." The symptoms of thyroid disturbances are manifold and cause much difficulty in diagnosis when there is much of a symptom complex. Modern physiology does not go far enough into the subject. The thyroid is an organ of economy and its functions are many. Its removal or destruction causes malnutrition by not neutralizing the end products of metabolism. These conditions are manifest by the symptoms of tetany and cachexia. The secretion of the thyroid is thought to be of a highly complex chemical composition and the lack or absence or hypersecretion of any of these compounds means symptoms of deranged metabolism. The parathyroids act independently of the thyroid and have to do with the calcium metabolism. Their removal causes acute tachycardia, tetany, etc. Removal of thyroid gland causes symptoms of a different type, lowering of the temperature, myxedema and mental symptoms. These symptoms are exclusively thyroid. The secretions of the thyroid are thought to render the salts of iodin harmless. The thyroid acts as a safeguard to the brain, by short-circuiting the blood when under abnormal pressure. Persons suffering from exophthalmic goiter have an abnormal consumption of nitrogenous and non-nitrogenous products. That the thyroid has an interrelationship with the ovaries and sexual organs seems proved by the fact that in castrated females there develops a "relative Basedow's disease." If the thyroid and ovaries atrophy at the same time there is less disturbance than if the ovaries atrophy first, for if the ovaries atrophy first we find the "relative Basedow's disease," and in cases of amenorrhea we find the balance between the thyroid and ovaries broken, and a relative myxedema, caused by inhibition of the ovarian secretions. During pregnancy the thyroid enlarges and as the elimination in the pregnant woman is lower than the non-pregnant woman, when the thyroid balance is broken the end products of metabolism accumulate and give rise to toxic symptoms, as in case report.

Patient woman, aged 24 years; family history negative; no personal medical history; normal weight 170 pounds; became pregnant in April; developed pernicious vomiting in June. Skin rough and dry, abdominal tenderness over upper abdomen. Had lost 30 pounds in weight. Thyroid could not be palpated. Passed 38 ounces of urine in twenty-four hours; specific gravity 1040, acid, albumin 2 per cent.; no sugar; trace of bile. Three days of treatment with thyroid extract caused amelioration of symptoms, and on the fifth day they had entirely ceased. After twenty-one days she developed symptoms of hyperthyroidism. Thyroid extract was discontinued; finally 2½ grains of thyroid extract twice daily controlled all symptoms. In September while away on a vacation, patient developed pernicious vomiting. Uterus emptied after three days and she died two days after operation. Death attributed to heart failure due to general toxemia.

In the discussion Dr. Beall said this paper shows what a change has taken place in the study of disease. To illustrate, the study of colloids has been undertaken. Undoubtedly the active principle of these disturbing elements belong to colloids. The action of colloids is interesting, as they will be precipitated in the presence of these salts, and on the other hand under certain conditions they will not be precipitated in the presence of these salts. This indicates that parathyroids have to do with metabolism.

Discussion closed by Dr. Rawles.

Motion carried that the secretary be instructed to send letter to state representatives and senators endorsing the amendment to medical bill now before the house.

Motion carried that next meeting be held in Anthony Wayne Club and that it be followed by a "dutch" lunch.

Adjourned. G. Van Sweringen, Secretary.

ADAMS COUNTY

The Adams County Medical Society met in the office of Dr. P. B. Thomas, in Decatur, with seven members present. Minutes of last meeting read and approved. The program consisted of case reports, each member presenting interesting cases. Many valuable points were brought out in the discussion.

Adjourned. C. C. Rayl, Secretary.

DE KALB COUNTY

The De Kalb County Medical Society met in regular session at Auburn Feb. 2, 1911. Minutes of previous meeting read and approved. Dr. W. F. King, Assistant Secretary of the Indiana State Board of Health, read a paper on "Medical Inspection of Schools." Dr. King emphasized especially the necessity and importance of school inspection. Dr. F. Broughton and Dr. F. M. Hines each reported several interesting cases.

Adjourned. D. M. Hines, Secretary.

HENDRICKS COUNTY

The Hendricks County Medical Society met at Danville on February 24, with ten members present. Dr. Scamahorn of Pittsboro read a paper on "Poliomyelitis," and reported a case. Child 7 months of age, attacked January 5 and died January 16. Patient quarantined and no other cases resulted. By a vote of the society Dr. John A. Osborn was made an honorary member.

The following officers were chosen for 1911: president, O. I. Scamahorn; vice-president, Joel T. Barker; secretary-treasurer, W. T. Lawson.

Adjourned. Wilson T. Lawson, Secretary.

HUNTINGTON COUNTY

The regular meeting of the Huntington County Medical Society was held Feb. 1, 1911, at 8 p. m. The president appointed Dr. F. B. Morgan to report on

the prevailing diseases and their treatment at the next meeting. Hereafter this is to be a regular feature at each meeting.

Dr. C. H. Good read a very able and interesting paper on "Anesthesia." He stated that a general anesthetic should never be given for the extraction of teeth as it is too dangerous; in fact a very large percentage of deaths from general anesthesia have taken place in dental surgery. A local anesthetic is sufficient and not so dangerous.

Adjourned. R. Q. Taviner, Secretary.

KOSCIUSKO COUNTY

The February meeting was held on the 28th inst. Dr. G. W. Anglin, Warsaw, read a paper on "Home Treatment of Tuberculosis," which was discussed by Drs. DuBoid, McDonald, Hines, Young, Murphy and Howard.

Dr. A. C. McDonald, Warsaw, presented a patient suffering from a Charcot joint—right knee. Dr. Young, chairman of the Committee on Public Health and Legislation, reported that the endorsements of the society, made at the last meeting, had been duly conveyed to the proper representatives and senators.

Adjourned. C. Norman Howard, Secretary.

MIAMI COUNTY

The Miami County Medical Society met in regular session in Peru, February 24, with fifteen members present. The by-laws of the society were amended to conform to the state by-laws.

A very interesting clinical case was presented by M. C. Kimball. The paper of the session was read by E. H. Griswold on the subject, "Injuries in and About the Ankle Joint."

Election of officers for 1911 resulted as follows: president, O. R. Lynch, Peru; vice-president, E. H. Andrews, Peru; secretary-treasurer, P. B. Carter, Macy; delegates, P. B. Carter and J. P. Spooner; censor, J. O. Ward.

Adjourned. P. B. Carter, Secretary.

PUTNAM COUNTY

The regular meeting of the Putnam County Medical Society was held in Greencastle on February 21. Dr. J. W. Sluss of Indianapolis presented a very interesting paper on "Non-Tubercular Affections of the Joints."

The advanced dues has caused no loss of membership, the majority feeling that The Journal (over the old transactions) alone is worth the difference, and that the undertaking of the defense of members in malpractice suits is a great advance and advantage.

Adjourned. E. Hawkins, Secretary.

BOOK REVIEWS

Physical Examination and Diagnostic Anatomy. By Charles B. Slade, M.D., Instructor in Physical Diagnosis, University and Bellevue Hospital Medical College, New York. Philadelphia and London; W. B. Saunders Company. 1910. Cloth, $1.25 net.

This small volume covers quite completely the technic, fundamental methods and principles of physical examination. It is intended as a groundwork to enable a more comprehensive understanding of the works on physical diagnosis.

The arrangement is very systematic and the illustrations and diagrams are well adapted. The practical utility of such a text augmented by appropriate remarks on the part of the instructor cannot be questioned and the subsequent fuller knowledge necessary to solve the problems of pathologic lesions will be grasped much more readily after such training in fundamentals.

Principles of Therapeutics. By A. Manquat, National correspondent to the Academie de Medicine. Translated by M. Simbad Gabriel, M.D., New York and London. D. Appleton & Company. 1910. Cloth $3.00.

The author calls attention to the fact that this treatise on general therapeutics is not a speculative work, but is devoted to *practice* with the double object of being useful and doing no harm. While in a sense this is true, in that much of the subject matter is practical, the arrangement of the contents is not such as to be readily accessible and hence the volume is not of much service as a text or ready reference book.

Each chapter is an essay on some phase of the study of therapeutics, but distinctive tabulation and headlines to call attention to the various subdivision of the subject being considered, are lacking.

There is much of interest in the volume and it is presented in a readable easy style that will be of service to those pursuing the subject.

Saunders' Pocket Medical Formulary. By William M. Powell, M.D. Ninth edition. W. B. Saunders Company. Philadelphia.

This little book has been very valuable to that large class of physicians who desire a ready and convenient reference to standard prescriptions and illustrations of the use of approved new remedies and their modern application. Aside from the fact that the book contains several hundred approved formulæ, it also has an appendix containing a posological table, formulæ and doses for hypodermic medication, a list of poisons and their antidotes, information concerning the diameters of the female pelvis and fetal head, an obstetrical table, a diet list for various diseases, materials and drugs used in antiseptic surgery, information concerning the treatment of asphyxia from drowning, tables of incompatibles, weights and measures, etc.

This last or ninth edition has been thoroughly revised, enlarged and adapted to the eighth revision of the United States Pharmacopœia.

The Care and Training of Children. By Le Grand Kerr, M.D., Brooklyn. Funk & Wagnalls Company, Publishers. 12mo. Cloth, 75 cents net; by mail 82 cents.

This book deals with the problems of the growing child and is the careful summing up in a series of delightful monographs of the mature experience of one of the foremost authorities on diseases of children together with the observations of conscientious parents and of other writers no less observant.

The practicing physician will find many useful and interesting facts within its contents. Child training from a hygienic, physical, mental and moral standpoint

is considered. As a guide, and not as a series of set rules, this small volume is to be recommended most heartily as a book which physicians should place in the hands of American parents. A volume of such worth will be readily received to take the place of so many publications on the same subjects that have come from the insufficiently experienced and lay public.

Biology: General and Medical. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology, Medico-Chirurgical College of Philadelphia. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $1.75 net.

In this small book the peculiar nature and interesting reactions of living substance, the unity of living things in the general scheme of life and their conformity to the same laws are presented in a scholarly and pleasing manner. All biology is as yet but a beginning, the sequel no one can foretell. The author deprecates the forming of incomplete information into laws as leading blindly from theory to theory.

The consideration of the various biologic problems, particularly those of medical significance and many of them are such, for instance the problems of blood-relationship, infection, immunity, parasitism and senescence, make the volume one of greatest interest to the student of medicine. However, the subject matter is presented in such a way as to be readily comprehended by any intelligent reader.

Text-Book of General Bacteriology. By Edwin O. Jordan, Ph.D., Prof. of Bacteriology in the University of Chicago and in Rush Medical College. Second edition. Philadelphia and London. W. B. Saunders Co. 1910.

Since its first edition in 1908 this text-book has continued to grow in popularity, having been reprinted several times until now within two years it has been necessary to furnish another edition which the author has revised and made to include any new advances in the science that are of value. Bacteriology has become more than a science of interest to the medical student. It now plays a most important part in household administration, agriculture, sanitation and sanitary engineering, also in the conduct of various industries and technological pursuits. And as such it presents certain aspects that tend to widen the outlook upon a variety of human interests.

The conciseness with which each subject is considered, together with bibliographic references for fuller pursuance of each subject, are particularly commendable. This makes the volume convenient as a text-book and a quick reference, as well as an accurate guide to detailed study in more advanced bacteriology.

The illustrations are many and well chosen. Several instructive charts are appended.

No doubt the book will continue to grow in favor as a text and reflect upon its author and publishers the credit they deserve.

Symptomatic and Regional Therapeutics. By George Howard Hoxie, A.M., M.D., Professor of Internal Medicine and Dean of Clinical Dept. in the School of Medicine of the University of Kansas, etc. With fifty-eight illustrations in text. Cloth, pp. 499. Price, $4 net. D. Appleton & Co. New York and London. 1910.

For a rather small work this is the most comprehensive volume on the subject of therapeutics of which we have knowledge. Having been built to follow the curriculum adopted by the Committee of Education of the American Medical Association, and pursuing as it does the lines recommended by the committee in charge of the Carnegie Foundation for the Advancement of Teaching, the book presents a refreshing departure from the stereotyped text-book on therapeutics. Its many references to the best current medical literature afford not only much useful information but an intensely interesting context.

Symptomatic and specific therapy are so differentiated as to lay emphasis upon clinical pathologic physiology—a distinct sign of the times in medical teaching.

An admirable balance characterizes the whole work and many of the most modern conceptions of therapeutics find place, such for instance as the dosage of digitalin (Merk's German) 1/10 to 2 grains hypodermically in place of our older ideas of 1/50 or 1/100 grain doses of the alkaloid.

All told the volume is decidedly the most modern and up-to-date in character of any that have come to our notice, and it should meet with a hearty response from the profession.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, Professor of Therapeutics and Materia Medica in the Jefferson Medical College, assisted by L. F. Appleman, Instructor in Therapeutics, Jefferson Medical College. December, 1910. Paper, pp. 360. Six dollars per annum. Lea & Febiger. Philadelphia and New York.

The first section of this number consists of a contribution by Lavenson on the diseases of the digestive tract and allied organs. By far the most exhaustive discussion in this department is afforded the subject of gastric ulcer and considerable space is occupied by a comparison of the Lenhartz and Leube treatments. Under diseases of the intestines it is but natural to find the subject of duodenal ulcer enjoying the most conspicuous place. It is rather surprising to find no mention made of the excellent contribution of Wilson on the value of the Cammidge reaction as a diagnostic method in disease of the pancreas, although the author attaches the same negative importance to the test as does Wilson.

Bradford's review of diseases of the kidneys is short but interesting, particularly that part on the question of arterial hypertension in renal disease.

In his section Bloodgood presents a rather exhaustive review of the question of hemorrhage and especially the more recent topics of direct transfusion of blood and serum injections. Under anesthesia he reports nitrous oxide as gaining in favor.

Belfield's section on genito-urinary diseases and Landis' therapeutic referendum, are, as usual, well done.

Modern Treatment; The Management of Disease with Medicinal and Non-Medicinal Remedies. By Eminent American and English Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; Physician to the Jefferson Hos-

pital: Author of "A Text-Book of Practical Therapeutics," "A Text-Book of the Practice of Medicine," etc. In two octavo volumes. Price per volume in cloth, $6.00, net; half morocco $7.50, net. Lea & Febiger, Publishers, Philadelphia and New York. 1910.

These volumes, the editorial work of one who is preeminently an authority on therapeutics and materia medica, contain a series of papers, the most modern in every detail of treatment. Volume I is divided into three parts; the first covering general considerations, including modern pharmacology and its bearing on practical therapeutics, the combination of drugs and prescription writing, and the untoward effects of drugs; the second including the vast field of the treatment of disease by non-medicinal measures, the various forms of such treatment being considered by men well-known as able authorities on the particular subject. The more distinctly modern departments of serum therapy, vaccines and opsonic therapy, glandular therapy, and the use of tuberculin are presented in their latest development with special reference to practical application. The third division covers the treatment of infectious diseases.

The appearance of a work of this kind is opportune, coming at this time when access to a competent summary of the many advances in therapy is most essential to skilful treatment. Each chapter is the work of one especially fitted to contribute to a volume of this scope.

Volume II is soon to appear. The two books will prove to be a very complete and reliable guide in the application of therapeutic measures.

Dislocations and Joint-Fractures. By Frederic Jay Cotton, A.M., M.D., First Assistant Surgeon, Boston City Hospital. Octavo of 654 pages, 1,201 original illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $6 net; Half Morocco, $7.50 net.

There is, throughout this work, a refreshing enthusiasm that has obviously sprung from a keen personal interest in the subjects treated, the personal element taking cognizance both of the careful clinical observations of the older workers and of the obligation due to the more exact data afforded by the more modern findings of the *x*-ray and operative measures.

Considering as he does the injuries at or near joints, which cover, of course, both fractures and dislocations, the author has so blended his topics as to make of the work one harmonious whole which holds the interest of the reader by virtue of the continuity of the context.

While the *x*-ray is recognized by the author as a most useful adjuvant to the intelligent treatment of the lesions under consideration, and it has added materially to our more exact knowledge of injuries to the bones and joints, yet no such extravagant statement finds a place in the text as that he is derelict in his duty who attempts to treat any fracture without first having a skiagram made. In fact, such a statement Dr. Cotton characterizes as silly, and very pertinently remarks that if only a single skiagram is to be made, it very often had best be made after reduction, in order the better to check up our result and make any alterations that may seem indicated.

However, the *x*-ray has served the author well in the illustration of his text, in which there are many beautiful examples of the art as well as a profusion of other illustrations. In fact, it seems to us that this is one of the features in which Cotton's work excels any so far offered to the profession.

Neither does the author go on record as an invariable advocate of the operative treatment of simple fractures in the majority of cases, but rather reserves such treatment ordinarily, with the exception of those few injuries that are palpably operative cases, such as patellar and carpal fractures and separation of the upper epiphysis of the humerus, for a later time "to avert or to remedy some condition perhaps remediable by gentler means at an earlier date."

All told, the work is thoroughly well done, the sequence good, conservatism and good judgment are always in evidence, and the result of the whole is a credit both to the author and publisher.

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ORIGINAL ARTICLES

CATHETERS, SOUNDS AND DRAINAGE TUBES; THEIR SELECTION, CARE AND USE *

WILLIAM N. WISHARD, A.M., M.D.
INDIANAPOLIS

In responding to the request to read a paper on the above subject I stated that it might seem too elementary to present to this society, but the reply was made that the subject was a practical one, and that it was desired to emphasize elementary principles, and therefore I consented to discuss briefly a few points of common knowledge and experience merely for the purpose of emphasizing what seems of practical importance. A few general suggestions may be presented in this connection that apply to all urethral instruments and their use. This is especially true in reference to catheters.

CATHETERS

Of the three varieties of catheters, the soft rubber, the woven, the metal, the first named is by far the most commonly in use and is consequently of the greatest importance. Its value has seemed to me to depend very much on:

1. The quality of the material with which it is made.
2. The smoothness of finish.
3. The proper size, shape and depression of the eye.
4. The interior caliber of the catheter and the thickness or thinness of its walls.

In reference to the first point mentioned it seems hardly necessary to say that only the very best material should be used in making rubber catheters, and that the cheaper varieties so often on sale by instrument dealers should not be used at all for the simple reason that a good catheter cannot be made out of poor material. The second requisite, that of smoothness of finish, is equally important and can only be obtained in the best grades of instruments. A catheter which does not have a perfectly smooth and glossy finish is unfit for use in the urethra. The third point, that of the proper size, shape and depression of the eye, bears an important relation to the ease with which the catheter is introduced, and the perfection with which it will drain urine or irrigation solutions. Personally, I prefer an eye that is depressed uniformly from the external to the internal margin of the opening. The so-called velvet eye is ideal. A perfect eye cannot be made, or at least is not made, in the soft rubber catheter having a solid end. The solid end prevents making a perfectly uniform depression of the eye, and it also seriously interferes with the flexibility of the first inch of the instrument. The proximal end of the eye is usually sharper and thinner than the distal end, and if the instrument happens to be introduced with the eye on the floor of the urethra there is a certain amount of irritation from this sharp margin in the bending of the catheter as it passes through the curved portion of the canal. An effort has recently been made to combine the advantages and to eliminate the objections to the solid end and the hollow end catheter by a compromise instrument with a pneumatic solid tip. This pneumatic solid tip instrument possesses some advantages over the solid end instrument but is not so flexible and has not the uniform softness of a hollow end catheter and in my opinion is less useful than the latter. The fourth requisite is that of a proper caliber and proper thinness of the walls, and as large drainage

* Read before the Indiana State Medical Association, Ft. Wayne meeting, Sept. 29, 1910.

capacity as is possible to not interfere with sufficient body and stiffness for introduction. If the walls are too thick the drainage capacity is diminished, and the instrument so stiffened that its introduction is not so easily accomplished. If too soft the catheter may double up in the urethra.

Woven catheters are of great value in selected cases, particularly the so-called Mercier or elbowed catheter, in cases of prostatic obstruction where occasionally a soft rubber catheter cannot be introduced. One difficulty with woven catheters is that they are often made too stiff and of inferior material. Unfortunately our American manufacturers do not make a woven catheter which compares favorably with the best quality of French manufacture. In the selection of woven catheters only the best French goods should be chosen, at least until our domestic product has been greatly improved. The straight woven catheters are rarely needed as a properly selected soft rubber catheter will usually pass where a straight woven catheter will pass. The elbowed silk or rubber catheter, however, is indispensable in many cases of prostatic obstruction, and the smaller sizes can occasionally be passed more easily than other instruments in some cases of large caliber stricture where the canal is especially tortuous. In such cases a little rotary motion and careful manipulation will often make it possible to relieve retention with a small size elbowed catheter where otherwise catheterization is impossible without further dilatation of the stricture. In connection with elbowed woven catheters I have found great satisfaction from the use of a flat elbowed catheter which I devised in 1903. It is simply a modification by flattening of the old-fashioned round Mercier catheter, but is made of the very best material, and instead of being flattened laterally the flattening is in the opposite direction, and thereby the flexibility is greatly increased over the ordinary round elbowed Mercier. I was led to devise this catheter by seeing an elbowed catheter which had been flattened laterally, and on using this instrument I found that its stiffness was increased in the direction where its flexibility should have been greatest. I called the attention of the instrument maker to this defect and told him that I believed a flat catheter could be made which would be a great improvement over the Mercier if the flattening were antero-posterior instead of lateral. He requested me to make a drawing of the catheter I suggested which I did, and this instrument has been in general use especially among genito-urinary specialists both in this country and abroad for the past six or seven years. I have repeatedly succeeded in passing it in cases of prostatic retention where no other instrument could be introduced. I recall but three of this class of cases where it could not be passed, and in one of those cases only a specially full curve metal catheter would enter. In the other two an operation was required. A French manufacturer is at this time trying to develop this flat catheter in soft rubber from suggestions I have made. The end in this case will necessarily have to be made solid, but this will be less objectionable in an elbowed soft rubber catheter than in a straight one. The chief objection to the woven instruments is that the desirable kind are expensive and a little difficult to sterilize, and they soon wear out. Expense should not be considered, however, in this connection, and the slightest roughness on the surface of these catheters should cause them to be discarded.

Metal Catheters.—In occasional cases, particularly of prostatic obstruction where the deformity and angularity of the urethra are unusual it is found that metal catheters of full curve are best adapted. Metal catheters are as a rule to be chosen only where flexible instruments cannot be used, and where the metal instrument alone is easily passed. They have the advantage of greater durability and easier sterilization. They are best made of nickel or of copper with nickel plating. Silver catheters, formerly in vogue, have the objection that they are more easily bent or dented. The proper shape and size of the eye of a metal catheter is quite as important as in the other varieties. A catheter of any kind will drain no faster than the eye and the interior caliber of the instrument will permit, and these two requisites are particularly essential in cases where there is much blood or pus in the urine.

DRAINAGE TUBES

Ample caliber and smoothness of finish are essential with tubes used for perineal or suprapubic drainage after bladder operations. It is frequently necessary to use continuous irrigation after prostate, stone or other operations, and where nothing better is at hand a large and a small catheter can be introduced side by side, and held together by a stitch or a safety pin attached on the outside. A large size tube, 28 or a 30 French, or even much larger is most useful for the outflow, and a very much smaller tube should be used for the inflow. Some ten years ago I had tubes of this kind vulcanized together, and the one here shown was one of the first set I had made which was shown to the Marion County Medical Society at that time and

subsequently to the New York branch of the American Urological Association. In all of these tubes attention should be paid to securing ample drainage caliber. Before beginning the use of the large and small tube vulcanized together I had used a large tube with large eyes placed directly opposite each other, which seemed to answer fairly well. At the time I had the two tubes made with eyes opposite each other I also had some made with an eye directly in the end. It was found that tubes with one or more eyes on the side answered a better purpose for drainage than where the eye was in the end. It is desirable to have the outer end of rubber irrigation tubes made with funnel shape as this facilitates the introduction of an irrigating nozzle.

My assistant, Dr. H. G. Hamer, has devised a very useful two-way metal tube which answers well for irrigation for the first twenty-four hours following a prostatectomy. Packing around a soft rubber tube will sometimes make sufficient pressure to interfere with drainage, and the metal tube has the advantage of resisting the pressure of the packing. At the end of twenty-four hours when the packing is removed, the soft rubber tube can be inserted through the Hamer tube and the latter withdrawn over the rubber tube without disturbing the wound. Dr. Hamer's tube was described in the *American Journal of Urology*, February, 1910.

SOUNDS

Under this heading we may include all instruments used for dilatation and exploration of the urethra. Those in most common use are made either of metal, or the woven instruments, and those made of whalebone. As a rule it is desirable to use the woven or the whalebone instruments where a narrowing of the canal will not admit a 20 or 22 French steel sound. Steel sounds are best adapted for use in the urethra where the canal will admit the size just mentioned or larger. The limits of this paper do not admit a discussion of the other forms of dilating instruments such as the Kollmann's dilator, etc. In selecting a steel sound probably more than in any other urethral instrument, individual skill and experience in the use of the particular instrument selected counts very much. Personally, I prefer the use of the so-called Otis short curve conical steel sound. Edward L. Keyes, Jr., in his recent work, says that he is more and more inclined to the use of the full curve Benique. The VanBuren curve and the Benique have not proved as easy of manipulation in my own hand. I do not think the steel sound should be as large at the tip as in the shaft, and especially if it is to be used for dilatation of a stricture. A conical end will often engage in a stricture and the shaft dilate the latter when a sound of uniform diameter cannot be introduced. In cases where a 20 or 22 French metal sound will not pass easily, it is as a rule best to use the olivary shotted silk bougie. Perhaps in no other instrument is it more important to select one with a gradual taper and a very flexible neck than in the case of these olivary bougies whether shotted or semi-solid. A silk bougie that has a short, stubby, stiff neck can oftentimes not be introduced at all in a case where even a larger size would pass if the tip and neck of the bougie were perfectly flexible, and the neck sufficiently tapering and slender. After the first inch or two of the instrument has passed through the stricture it is usually easy to introduce the shaft. In these woven bougies, as in the woven catheters, I have found that the best French goods are the most desirable. It is difficult to select a complete supply of woven bougies for the simple reason that the majority of them are improperly made, and it is best to add to one's supply from time to time by selecting those of the best shape and flexibility and finish from among those that are objectionable. It has long been my custom to select woven bougies in this way from the supply on hand with instrument establishments rather than to order by letter. In the latter case a majority of the instruments may be found unfit. Flexible bougies are often very useful in the larger sizes as well as in the smaller sizes, and it is not infrequently found that a flexible bougie, having a caliber as large as 25 or 26 French or even larger, can be passed into a urethra, where the introduction of a solid steel instrument would be difficult or impossible. There seems to be no absolute and unvarying rule in this matter and it is, therefore, desirable to have an ample supply of varying sizes, although the flexible bougies are as a rule best suited to strictures of medium or small caliber.

Whalebone Bougies.—In the use of these instruments smoothness of finish and proper flexibility are also essential. In recent years I less frequently find it necessary to use the old-fashioned filiform bougie, but in its stead have usually succeeded with the so-called filamentous wedge. The latter can be more easily handled as a rule, and the sensation communicated to the hand as it is introduced is more delicate and accurate. As a rule these instruments are made in two or three sizes only, but I have found it advantageous to have them made in larger sizes,

and it is oftentimes helpful to have a filamentous wedge which has a shaft as large as 20 French, although smaller sizes usually answer. It is possible to rapidly dilate a stricture of extremely small caliber with a filamentous wedge after the filiform end has once passed the contraction, and it is just as well in many cases to have a shaft of good size so that the dilatation secured will be more effective for the subsequent introduction of other instruments.

From time to time it happens that the filamentous wedge will not pass as easily as a full length and very slender filiform bougie. Filiform bougies are made in two lengths, the shorter ones about 12 or 14 inches in length and the longer ones 24 to 26 inches. Only the longer ones should be selected and those that are most flexible and most slender are preferable. The tactile sense is much more delicate in using a long filiform than with a short one.

GENERAL CONSIDERATIONS

Some general considerations are only second in importance to the selection of proper instruments. Among them may be mentioned the mental and physical attitude of the patient together with the temperature of the room and the bearing of the physician. In a warm room and the patient in the recumbent position on a solid table, a surgeon exercising gentleness and maintaining a quiet and reassuring bearing will often be able to explore the urethra or bladder with ease where opposite conditions would make this impossible. The majority of patients are prone to put their hands above their heads at the moment an effort is made to introduce an instrument into the urethra, or if they are alarmed, to attempt to grasp the hand of the surgeon. The hands above the head make the perineal muscles more tense and instrumentation more difficult. After an instrument has been used a few times many patients will tolerate its introduction while standing as well as when lying down.

Occasionally it happens that a catheter can be introduced with the patient in the knee-chest position, especially if the bladder is much distended, as this position takes the pressure somewhat off the neck of the bladder. More skill, however, is required in handling a catheter with the patient in this position.

The urethra should be elongated by holding the penis firmly at a slightly oblique upward angle or a right angle to the long diameter of the patient's body. Occasionally introduction of metal instruments is facilitated by allowing the beak to rest on the floor of the urethra until the cutoff muscles are reached, and then gently reversing it. Experience, gentleness, tact, and patience are indispensable. It is always desirable to have the rectum empty when an instrument is passed into the urethra or bladder. A loaded rectum will often not only produce a certain amount of residual urine after voluntary efforts to urinate in patients of any age, but it also makes a certain amount of pressure on the neck of the bladder and prostatic urethra and makes the introduction of instruments less easy. If time permits it is often important to precede instrumentation by a brick saline purge, or at least by an enema.

In closing, perhaps it is pertinent to add a few words about the care of instruments including their sterilization, and also the avoidance and control of shock and hemorrhage following instrumentation. So far as possible urethral instruments are best cared for in the interval between use by wrapping them separately in or laying them sufficiently separated on dry sterile towels. In the latter instance they should be covered with other towels. Throwing them together loosely in an instrument drawer scratches and roughens them and unfits them for use. In the sterilization of instruments no method equals boiling. Every instrument should be washed with soap and water immediately after use, and thoroughly sterilized before using. In case of woven instruments if they are comparatively new it is permissible to sterilize them by immersion in a 1 to 500 solution of oxycyanid of mercury. The same solution is useful for sterilization of soft rubber and other urethral instruments. Rubbing a metal instrument thoroughly with cotton wet with alcohol and then passing it through an alcohol flame is permissible, but nothing takes the place of boiling. Frequent boiling tarnishes all instruments, and in the case of woven instruments it softens or destroys the glossy finish unless the instrument is of the very best quality, and is cooled gradually before handling. To handle a silk catheter that has just been removed from a sterilizer will usually at once roughen or remove the smooth coating. If time will not permit for them to cool gradually after removal from the sterilizer on a tray and before handling, then cool sterile water should be poured into the sterilizer or the instruments immersed in it after removal and while yet lying untouched on the tray.

Lubricants.—Oily lubricants are always objectionable, and for this reason vaselin, sweet oil, and such things should be avoided as they make the instrument very much harder to cleanse and do not facilitate its passage as well as some of

the non-oleaginous lubricants. It is estimated that three times as much time is required to sterilize a catheter that has been lubricated with oil as where a non-oily lubricant has been used. Glycerin and boroglacerid are in common use, and are quite soluble. Various preparations of Irish moss sterilized in formalin are furnished under different trade names, and dispensed in small paint tubes. Keyes recommends a mixture made with gum-tragacanth, glycerin, water and oxycyanid of mercury, which should be preserved in sterile paint tubes.

"Dissolve 1 cm. of oxycyanid of mercury in 200 c.c. of hot sterile water; add 35 c.c. of glycerin and water enough to make 350 c.c. Let this mixture cool; then add 10 to 15 gm. of powdered gum-tragacanth. Let this stand until it becomes a homogeneous mass, a process which takes several days, but may be hastened by occasional stirring to break up the lumps. The amount of tragacanth employed depends on the consistence of this substance, which varies considerably.

"This lubricant may be put up in sterile paint tubes. Its quality depends on the employment of precisely the right amount of tragacanth."

After instrumentation of any kind it is usually desirable to cleanse the bladder and urethra, but this is especially important after the use of dilating instruments. A saturated solution of boracic acid or a weak solution of permanganate of potash answers very well and will often avoid the so-called urethral chill, and accompanying shock. If instrumentation has been difficult or more than ordinarily painful, it is important to have the patient lie down for an hour or two afterward. After prolonged or especially painful instrumentation it frequently happens that shock is avoided by keeping the patient quiet and giving a hypodermic of morphia or a suppository of morphia by the rectum. A simple and efficient means of modifying urethral pain following examination or treatment is the immersion of the penis in a tincup of hot water, and this is especially soothing the first time a patient urinates after local treatment. When the water cools it should be replenished by adding more hot water, and the immersion maintained for ten minutes.

Bleeding following dilatation or instrumentation of any kind is usually easily controlled by taking a hard folded towel, making direct pressure over the anus and thence forward along the line of the urethra, and maintaining this pressure firmly for a few moments while at the same time the opposite hand grasps the head of the penis and draws that organ firmly forward and upward against the abdomen. In bleeding from the prostatic urethra it is helpful to insert the index finger into the rectum and with it make direct pressure along the line of the prostatic urethra and associate this pressure with the external pressure above described.

ANESTHESIA

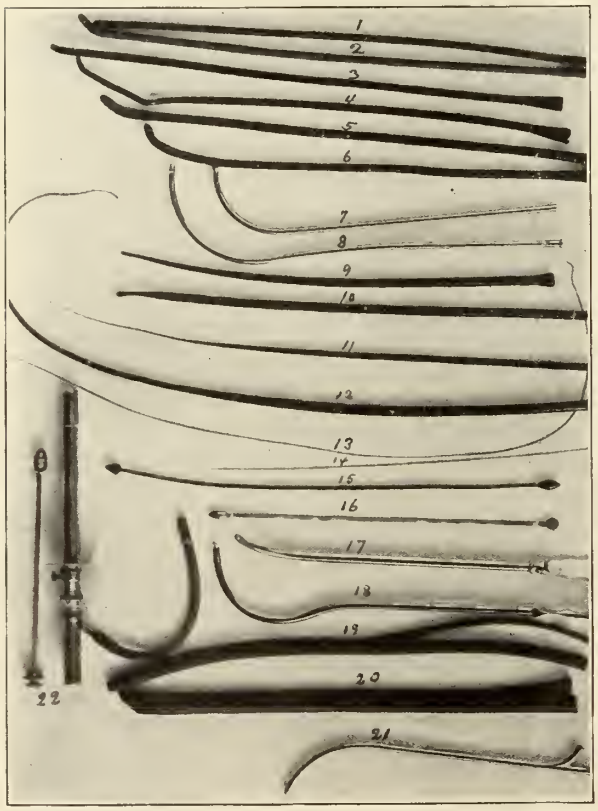
Local anesthesia for the ordinary use of a catheter is, of course, objectionable; but where catheterization is difficult or extremely painful, and in passing large sounds and using dilators, a local anesthetic is generally necessary. Very good anesthesia can be secured by the use of a urethral syringe such as the Keyes instrument, or in its absence an ordinary medicine dropper can be used and the solution injected into the urethra and the meatus then closed with the thumb and finger while the medicine dropper after removal is allowed to fill with air, and the air then injected in like manner into the urethra, and the meatus closed again with the thumb and finger while the loose tissue of the scrotum is used to push the air and cocain solution up and down the urethra. The air gives a little additional distention to the urethra and answers an excellent purpose in forcing the solution back and forth in the canal. However, cocain solutions are objectionable for anesthetizing the urethra as it is impossible to limit the anesthesia to any definite proportion of the canal, and usually much more than is needed is absorbed. For the past few years, therefore, I have almost entirely discarded cocain solutions and instead thereof use the Bransford Lewis cocain applicator, which is an instrument made very much like an ordinary metal catheter, but open at both ends, and it is provided with an obturator which is used during the introduction of the instrument. The obturator is then withdrawn and the tube left in position while a tablet of ¼ or ½ grain of cocain is dropped into the urethra through the metal tube, and the obturator is again introduced. The moisture in the urethra almost immediately converts the tablet into a thin paste, and with a little in and out movement of the applicator this paste is smeared over the urethral wall, and better anesthesia secured than with the solution. Any limited portion of the canal can be anesthetized in this way, and there is less absorption of the drug. Two or three tablets are usually sufficient.

In answer to numerous requests for suggestions, and in further illustration of some of the points in this paper, I include a cut of some of the more common urethral instruments with suggestions as to their relative value.

1. A soft rubber catheter with funneled end and hollow tip and a velvet eye. The scale in centimeters stamped on the surface to measure the depth to which it is inserted does not show in the illustration. An excellent catheter for ordinary use. This catheter is made by a French firm from suggestions I gave and the material and finish have thus far been very satisfactory.

2. A soft rubber catheter with elbowed tip and solid end. This is a useful catheter for cases of prostatic obstruction and as a drainage catheter where the straight soft rubber catheter cannot be inserted.

3. Wishard flat silk catheter with elbowed tip and funneled end. This catheter is as rigid as an ordinary Mercier catheter laterally, but quite flexible in



the opposite direction. Very useful in all cases where catheterization is difficult on account of prostatic obstruction.

4. Wishard double elbowed silk catheter with funneled end. This catheter has a cylindrical shaft and is flattened to a short distance above the second elbow. It is adapted to cases of prostatic obstruction where the prostatic urethra is extremely long and tortuous.

5. Silk elbowed catheter with funneled end and flattened laterally. This catheter is flexible laterally but quite rigid in the opposite direction, and is therefore objectionable.

6. Mercier catheter with a thin copper lining. The copper lining makes possible the moulding of the instrument to any desired curve which it will retain fairly well during introduction.

7. Metal catheter of ordinary short curve.

8. Metal catheter with long prostatic curve.

9. Woven silk conical olivary tipped shotted bougie. This bougie has a small olivary tip, a slender neck and a gradual taper extending half the length of the instrument. Being filled with shot it is almost as firm as a metal instrument but quite flexible and is a very desirable instrument for the dilatation of strictures up to 22 or 24 French.

10. Woven silk conical shotted bougie with thick neck and short taper. This bougie is not as flexible as No. 9. The short taper gives it less dilating power and makes it more difficult to use. It is shown to contrast with No. 9 and is objectionable.

11. Filamentous wedge made of whalebone.

12. Urethral whip bougie. This is a silk woven bougie with a rigid shaft and a slender filamentous lash which is flexible. It is 26 inches long.

13. Long filiform bougie of whalebone. This bougie is preferable to the short filiform bougie in that it gives a more delicate tactile sense during attempts at introduction.

14. Short filiform bougie.

15. Silk woven bougie-a-boule. Owing to its flexibility this instrument is much more useful in the detection of urethral narrowings than the metal or other rigid bougie-a-boule.

16. Metal bougie-a-boule. This instrument has an olive tip and a flattened shaft which is graduated in inches which gives the depth at which a stricture is located without subsequent measurement with tape measure or rule, but is not so generally useful as the silk woven bougie-a-boule. The flattened shaft allows bending to any curve desired.

17. Otis short curve conical steel sound. The short curve makes introduction less difficult than other curves and the conical tip gives easy dilating quality.

18. Benique curve blunt end steel sound. Where little dilatation is required and the sound is to be left in the urethra for a considerable period this instrument is more comfortably borne by the patient, but where dilatation is wanted it is not so easily introduced as the Otis short curve conical steel sound.

19. A two way perineal drainage tube for continuous irrigation of the bladder. This tube is one of the original set the writer had made some ten years ago, by having two catheters, one small and the other large, vulcanized together.

20. A recent model of the above tube which has open ends and eyes on the sides of both tubes. A very serviceable tube giving free inflow and outflow provided there is little packing around the tube necessary.

21. Bransford Lewis cocain applicator for depositing tablets of cocain in the urethra.

22. Hamer's metal two way perineal irrigating tube for continuous irrigation of the bladder after perineal operations for prostatectomy, stone, or vesical tumor. (See *American Journal of Urology*, February, 1910.)

A convenient assortment for general use might include the following sizes of the different numbers:

1. Sizes from No. 14 to 20 French.
2. One No. 16, one No. 18 and one No. 20 French.
3. Two No. 18 and two No. 20 French.
4. One No. 16 and one No. 20 French.
6, 7 and 8. One each No. 18 French.
9. Even numbers from No. 12 to 24 French.
11. One each Nos. 10, 14, 16, 18 and 20 French.
12. Nos. 16, 20, 24, 28 and 32 French.
13. Three or four full length.
15. All the even numbers from No. 10 to 30 French.
17. Even numbers from No. 18 to 42 French.
20, 21 and 22. Are made in one size only.
5, 10, 14, 16 and 18. Are objectionable and are illustrated for contrast only.

DISCUSSION

Dr. Bernard Erdman, Indianapolis: Mr. Chairman and Gentlemen: In discussing Dr. Wishard's very, very valuable paper, I might say that two things struck me very forcibly. His statement to the effect that the personal preference has much to do with the instrument, and, second, the favor in which it is held by the operator, are very pertinent. As to the relative value of catheters, soft woven, rubber and metal, the point the essayist has made is one which I am sure is very important. Another point is that the end of the catheter should not be solid. This is particularly brought to mind in the use of the soft rubber catheter if you have an unusually long posterior urethra, or if you have a sharp curve. The soft rubber catheter will, under the guidance of the hand, pass into the urethra with a great deal more ease than if the catheter end were hard.

As to the question of makes, it is unfortunate that, while we produce the finest things in many lines in this country, we do not seem to have been able to find a maker who can make for us the woven-coated instruments that the French can make. Dr. Wishard spoke of his catheter which he had made in 1903, the one flattened from above downward. A catheter of that type I have been unable to get from anyone but Porge. I am not advertising Porge, but they have been of such constant quality that it is well to have an instrument of this kind. The catheter has a double eye. Dr. Gouley says we do not need a catheter of this kind, but sometimes a catheter with a double eye is a very valuable instrument, I assure you.

In steel instruments there have been for a number of years the different grades and different makes of steel sounds. Not a great many years ago a steel instrument was brought on the market to which can be attached a filiform which has been passed through the stricture and the instrument passed on into the bladder. The curve which Dr. Wishard speaks of is always much more serviceable than a blunt pointed instrument, and I am sure that the long curve of the sound is one that will prove much more comfortable to the patient and generally much more serviceable. It might be mentioned that there is, between the old Van Buren sound and the Benique sound, a curve of Guyon which is about one-half that of the Benique.

In the dilatation of stricture of the urethra a practice was laid down by a former teacher of mine which I think is an admirable one. You must first accustom your urethra to the presence of an instrument. Instruments of woven material shotted will usually be much more favorable to begin the dilatation of the urethra than a solid instrument. After you have begun the dilatation with a soft instrument, then I believe it is well to pass on to the steel sound and from that to the dilator.

In the matter of drainage, the types of drainage tubes which the doctor has brought to the attention of the Society I am sure are very good, for he must know more of these things than many of us will ever know, because his opportunities are such that his opinions have great weight. In the rubber drainage tube there have been many modifications, some two catheters, putting a stitch in the end of them, through both ends, thus holding both tightly. Other modifications have been made in which a solid piece of rubber is used with one solid catheter, and two openings made. But with the advent of the metal drainage tube I am very sure a very distinct advance has been made in drainage through the perineum. This drainage tube is of such caliber that it can be passed through the perineal wound without difficulty, the stoutness of its walls affording opportunity for packing tightly about it, and in that way doing away with dead spaces, and in addition its caliber being of such size that you can readily pass the catheter through it, and then withdrawing the metal instrument does away with subjecting the patient to the pain and discomfort incident to replacing a catheter through the wound.

In a general way I have no advice to offer, except that in the passage of an instrument if the patient be instructed to take a breath as the instrument lies just at the cut-off muscle, and then exhale this breath slowly, you will find you have much less difficulty in passing that instrument into the urethra, and that it will slip through into the deep urethra much easier than under ordinary conditions.

Dry sterilization has come into vogue in late years. Instruments can be thoroughly washed in soap and water, dried on a towel and put into a formalin sterilizer. They can remain there, and then on withdrawal of the lamp the instruments will cool gradually and that will go far toward preserving them.

In the matter of anesthesia I want to say just one thing. I am very sure we can accomplish, as Dr. Wishard says, thorough anesthesia by a little attention, and where we want to do that I have found if we use eighth-grain cocain tablets we obtain just as thorough anesthesia as we formerly did with quarter and half grains.

A PLEA FOR THE CESAREAN OPERATION, BASED ON A REPORT OF FIFTY-THREE CASES PERFORMED IN INDIANA*

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Gould defines Cesarean operation: "extraction of the fetus through an incision made in the abdomen." Historically, it is one of the oldest of obstetrical operations recorded. It is generally supposed to have received its name from Cæsar, who was believed to have been born by abdominal section; whether this be true or not, it was performed many years before his time.

Formerly the operation was regarded as the *dernier ressort* of midwifery. After every other resource failed, then the Cesarean section was deemed a proper help. In other words, after the unfortunate woman had been subjected to efforts at delivery with forceps and version, and reduced to a less or greater degree of exhaustion, and the fetus subjected to injuries, the abdomen was incised; and if death resulted to mother or child or both it was attributed to the Cesarean section. It was like the early beginning of antitoxin, which might be tried for diphtheria after all other remedies failed, and then incurred the blame for a death it did not cause, and declared to be inert and harmful where it had not been given a fair test.

In 1847 Churchill's obstetric statistics showed a collection of Cesarean cases gathered from the records of the past century. From British and American practice he collected fifty-two cases. Of this number fourteen mothers were saved, thirty-eight were lost. Of forty-nine cases where the result to the child was mentioned, twenty-eight were saved and twenty-one lost. My statistics have nearly reversed those of Churchill. He shows fourteen mothers saved and thirty-eight lost in fifty-two cases. In fifty-three cases I show thirty-eight mothers saved and fifteen lost.

In addition to these he collected from various foreign sources 371 cases and of this number 217 mothers recovered and 154 died. Of 189 of these cases where the result to the child is given, 139 were saved and fifty lost.

Aggregating the entire number, which amounts to 423, we find that 231 mothers were saved and 192 lost; and of 238 children, 167 were saved, 71 lost.

At that date Churchill expresses surprise that he was able to collect such a large number of cases from various lands. Sixty-three years from the time of his record I have collected fifty-three cases in the one single state of Indiana, thus showing the rapid increase in frequency of the operation, the growing favor with which it is received by obstetricians and surgeons at the present day, and also the marked increase in saving mother and child.

Churchill was writing at the dawn of the discovery of anesthetics. All of his statistical reports were cases where the operation was performed without the aid of an anesthetic, much less the saving help of aseptic precautions. Could he have been favored with a prophetic vision extended half a century into the future, he would have seen a period when anesthetics and aseptic agents have largely robbed the Cesarean operation of the terrors that haunted the early operations.

Blundell, who wrote in 1834, said by way of encouragement and precaution: "Women possessing perhaps a larger share of passive courage than men, we may, I believe, generally trust to their fortitude; and I deem it, therefore, unnecessary to alarm by the use of bandages, though a steady assistant, of firm nerves, ought to stand on either side in readiness to secure the patient, should her resolution fail."—Blundell's "Obstetrics," page 349. Such was the picture of the operating-room three-quarters of a century ago.

The tolerance of the gravid uterus is remarkable. It has been cruelly torn open by the horns of infuriated animals. The common cutlery of the kitchen table has been called into requisition for dividing its muscular walls. It has been invaded not only by skilled surgeons but by drunken midwives, as well as savages in the wilds of Africa. Even more, impatient women, lashed by the pangs of childbirth, have ripped up their own flesh and speedily delivered their own offspring. And the strangest part is to be told: the fatalities in this diversity of operations in the past have not greatly varied! It would seem that Providence had foreordained that one organ, at least, in the human body should receive especial favors, and that woman with the stamp of maternity on her should be the favored of God!

Dr. Robert P. Harris, late of Philadelphia, has collected the records of eleven cases where women far advanced in pregnancy had been ripped open through the abdominal and uterine walls, by the horns of bulls, oxen, and cows, and after these fearful injuries, seven women and five children were saved. (*Am. Jour. Med. Sc.*, 1888, xcv, 151.) One horn-delivered boy in this country was in excellent health at the age of 6 in 1888.

* Read before the Indiana State Medical Association at Fort Wayne, Sept. 30, 1910.

Another grew to manhood at San Pablo, in Mexico, and was living in 1875, aged 25 years. (*Am. Jour. Obst.*, October, 1887, p. 1037).

In 1838, as related by the late Dr. Bennet Dowler of New Orleans, an old negro midwife, while intoxicated, performed the Cesarean operation, on the plantation of Judge Waggaman near that city, with a case-knife, the subject being a slave primipara in natural labor at the age of 20. The woman and child escaped death. As Dr. Dowler remarks, had there been a necessity for this operation, English surgeons might well have looked to their laurels.—New Orleans *Med. and Surg. Jour.*, xi, 13.

Dr. Harris, in the article already referred to, reports six cases of self-inflicted Cesarean operations, with recovery in five cases, and he adds: "The fatal case might have had a different result if the woman had not cut herself too high up." One of these six cases was a girl who cut through her abdomen with a razor, walked 200 yards and threw herself on a snow-drift, where she was discovered hiding a child in the snow. She then arose and ran back to the house with a second child and intestines protruding through the abdominal wound. In a few weeks she had made a good recovery.

The result to the children in the six cases shows three saved and four lost, including the twins, which would have been saved but for the gross exposure and neglect. This is a fortunate result when we recall the fact that the women did not undertake the operation in order to save their offspring, but rather to destroy; at least were indifferent. In one case the mother inflicted wounds on her child that caused its death and led to her arrest and trial for the crime of infanticide. In one-half of the cases, the pregnancy was illegitimate.

Mr. Robert W. Felkin, F.R.C.S., in 1879 at Kahura, Uganda Country, Africa, witnessed a Cesarean operation by a native savage. The woman, perfectly naked, after having been liberally supplied with banana wine and was semi-intoxicated, lay down on an inclined bed. Two men assisted in holding the woman. The operator washed the woman's abdomen with banana wine and then with water. This being done he washed his own hands, and standing on the left side of the woman, with a peculiar-shaped knife he made a rapid cut in the median line from a little above the pubes to the umbilicus, severing the muscles and uterine walls and permitting the escape of the liquor amnii. The child was removed and handed to an assistant. The uterus was cleared of placenta and blood-clots and then compressed into a small space without closing the uterine wound. A red-hot iron was used to check hemorrhage from bleeding points in the abdominal wound. The edges of the peritoneum were brought together with the edges of the abdominal wound and held in apposition by seven thin, well polished iron spikes. A banana leaf, warmed, was placed over the belly and held in place by a bandage of mbugu cloth. Her temperature never rose above 99.6 F., as observed by Mr. Felkin, except on the second night, when it was 101 F., and pulse 108. Eleven days after the operation the wound was entirely healed, and the woman quite comfortable. The child, also, was saved.—Edinburgh *Med. Jour,* April, 1883, page 922.*

In digressing to report the foregoing unique cases, it has not been my object to exhibit a number of surgical curios nor to excite wonder in the minds of my hearers, but rather to prove that the gravid uterus can be entered through the abdominal walls with comparative impunity. Also, to show that if the danger is small when the Cesarean operation is performed needlessly, and crudely by ignorant persons, how much less the danger when performed by skilful physicians under aseptic precautions. I will be able further to demonstrate this fact in my report of cases.

A few months since, I began a study of the Cesarean cases performed in Indiana, extending over a period from 1863 to the present time. I think I have collected all, or nearly all cases performed in the state. If any are omitted, I am not to be blamed, as I have sought for information from every county medical society.

When I began my task, my object was rather to present a historical report; but as I proceeded, and case after case reached me, I found my investigations must take a wider range, and I was forced to the conclusion that I must not only study the subject historically but also as a valuable measure for saving the lives of mothers and children. I was unbiased when I began my work, but I freely admit that I am now an advocate for the more frequent resort to the operation. I am driven to this conclusion.

I wish to express my thanks to those who have favored me with reports of cases, and especially to those who reported cases where the results were disastrous. It is well to know remedies that cure; and it is well to know what measures are useless. It is an easy matter to report a

* The reader interested further in this case will find a full report in the New York Med. Jour., Aug. 29, 1903, p. 443. Also a rude cut representing the operation, and the knife, "Anomalies and Curiosities of Medicine," Gould and Pyle, 1900, p. 131.

successful case, but it requires a good degree of bravery to report a case where both mother and child died; and yet I assure you these are valuable for practical lessons. They teach the danger of delay and the advantage of early interference.

In all cases where the operator is living I have secured from him a personal record of his case or cases. Where the operator is not living I have derived the information from a living assistant or from a printed record.

Each individual case is a law unto itself. I believe that my collection of cases will demonstrate that the Cesarean operation is safer for mother and child where the parturient canal is markedly lessened from any cause, than are the necessary operations with forceps and turning for effecting delivery. The case of Dr. H. O. Shafer (Case 30), is a good example of forethought in determining what measures to adopt. Serious results in that case might have followed from prolonged efforts to deliver with forceps. The sad condition of the mother might have been aggravated and one or both lives sacrificed, while a happy termination followed the Cesarean operation—both mother and child were saved.

I make no doubt that in cases of eclampsia occurring near full term, where the convulsions manifest a disposition to recur in an aggravated form and dilatation is difficult or retarded, that the Cesarean operation is safer, easier and speedier than any other measure for terminating labor, thus insuring the greater safety of mother and child. The child that is extracted by force through the vagina of a woman in convulsions, especially if a primipara, has a small chance of being born alive and is quite liable to die of convulsions afterward if the mother suffered from prolonged convulsions before delivery.

Quite recently a medical friend had charge of a primapara in a tedious labor complicated with convulsions. For hours he toiled energetically to terminate the labor. The result was a dead baby; the mother's life was barely saved, making a painful convalescence to final recovery. The physician himself was prostrated from his exertions and was conveyed to his home in a cab. He considers that his health has been permanently impaired. A Cesarean section might have prevented much of this trouble. Dr. Conway (Case 1), at his early day, operating amid the scanty conveniences of a farm-house, says: "Fifteen minutes only was consumed in the entire operation." In one of Dr. Porter's cases he says: "Within forty seconds the child was in the hands of my assistant."

I have collected from various operators fifty-three cases of Cesarean operations that have occurred in Indiana. The first case of which I can find a record was performed near Madison, Jan. 29, 1863, and the last, Aug. 20, 1910. I have arranged them in the order of the date of their occurrence. The operators are well-known medical men of the state—men of truth and veracity, and I have recorded the histories as detailed to me. It will be observed that the operation has increased in frequency during the past fifteen years, and with better surroundings as to hospitals and aseptic measures, combined with greater experience in operating, the mortality has correspondingly decreased.

Dr. Moses Baker of Stockwell was the first operator to save both mother and child (Case 3). Dr. William H. Myers of Fort Wayne was the first to do the Porro operation and he saved mother and child (Case 9). Dr. J. R. Weist reports the first operation for extra-uterine pregnancy, saving the mother alone (Case 4). Dr. Joseph Eastman reports the first case of extra-uterine pregnancy saving mother and child (Case 7). These men have all passed away. Dr. O. G. Pfaff reports the first case of interstitial pregnancy, saving the mother (Case 13). Dr. L. H. Cook reports the first utero-tubal pregnancy, in which both mother and child were saved (Case 15). Dr. M. F. Porter reports the first case for placenta prævia, saving mother and child (Case 32). Dr. H. O. Pantzer reports the first operation by the vaginal route, saving mother and child (Case 37).

Dr. H. A. Duemling has operated in five cases; Dr. T. B. Noble in four; Dr. O. G. Pfaff in three; Drs. M. F. Porter, H. O. Pantzer, J. R. Weist, Walker Schell and Budd Van Sweringen each in two, and thirty-one operated one time.

I have no criticisms to offer concerning the results in fatal cases—as a rule the operators were called in consultation at a late period. Alas, often too late! In some of the cases, I am persuaded, the accoucheur would do better in a second similar case. The knight who visited the enchanted castle saw written over its many doorways:

> "'Be bold, be bold, and everywhere be bold.'
> But over one was writ: 'Be not too bold.'"

It is useless to speculate as to what might have occurred in some cases, if, instead of prolonged efforts with forceps and attempts at turning, the Cesarean operation had been performed at an early period. We can all learn from experience.

The following is an analysis of the fifty-three cases:

	Cases
Mother and child were saved in	27
Mother alone was saved in	11
Total number of mothers saved	38
Mother and child were lost in	7
Mother alone was lost in	8
Total number of mothers lost	15
Child saved with the mother in	27
Child alone saved in	8
Total number of children saved	35
Child lost with the mother in	7
Child alone lost in	11
Total number of children lost	18
Total number of mothers and children saved	73
Total number of mothers and children lost	33

Of 106 lives involved, over two-thirds of the number were saved.

In eight cases (Nos. 1, 4, 6, 10, 20, 27, 30, 52) the child was dead before the Cesarean operation was commenced. In fact, the design in each case was simply to save the life of the mother. While my records show an aggregate of seventy-three mothers and children saved, I think, properly, that the eight cases should be deducted from the mortality list, and that instead of a total of thirty-three deaths ascribed to the operation, it should be reduced to twenty-five.

My report on the fifty-three cases of Cesarean operations in this state will show that the profession of Indiana has added laurels to its fame.

I conclude with the following deductions:

1. In all cases of malformation of the pelvis by bony or soft growths to an extent that hazards the life of mother or child by an instrumental delivery, the Cesarean operation is to be chosen as the safest, easiest, and speediest mode of delivery for mother and child. Further, while the abdomen is open, the time is opportune for removing various growths causing the malformation, also the uterus if it is seriously diseased. A wombless woman is in less peril than the rachitic woman with a womb and exposed to the risk of pregnancy.

2. Where pregnancy near full term is complicated with eclampsia, and the convulsions manifest a disposition to recur frequently and with marked severity, the Cesarean operation ought to be seriously considered, especially if the subject is a primipara, the pains ineffective, the soft parts unyielding, and the fetus viable and known to be alive.

3. In placenta prævia at or near full term, with an undilatable os, and profuse hemorrhage threatening the life of mother and child, the Cesarean section is a legitimate operation for a speedy termination of labor.

4. Craniotomy is necessarily fatal to the child. It is unjustifiable except where a positive diagnosis of a monster is made. The risk to the mother is so slight in Cesarean section that it should be preferred where craniotomy seems necessary. The mother should share the risk for the chance of saving her unborn child. The civilization of the twentieth century prompts the hazarding of one life in order to save another.

5. Apparently hopeless cases ought not to be abandoned. In cases of doubt, even after other means have failed, operate. Notably this is emphasized in Dr. Duemling's case (Case 28), where he saved mother and child when "peritonitis followed gangrenous appendicitis in the seventh month of pregnancy."

6. The physician engaged to attend a woman in labor should thoroughly know his patient, and be prepared for any emergency. In most cases he can determine beforehand the necessity, if it exists, for Cesarean section.

7. Avoid procrastination. There comes a time when the power of remedies is inert, and a doubtful moment when it may be useless to throw a rope to a drowning man!

8. May I close with a word of warning? I would not inculcate the idea that the physician is rashly to open the abdomen. The responsibility should be divided with one or more competent advisers. In the language of Oliver Wendell Holmes: "The woman about to become a mother should be the object of trembling care and sympathy wherever she bears her burden or stretches her aching limbs. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly."

Case 1.—Dr. J. W. Conway, Madison, Jan. 29, 1863. Primipara. Assisted by Dr. Greater. Mother made a good recovery. Result to child not stated, but presumably dead, as the mother "was a delicate female of strumous habit, who, during the entire pregnancy was confined to her room almost entirely by a tertian ague." The operation was decided on because "the cavity of the pelvis was almost entirely occupied by a fibrous mass; vagina shut and much distended."

So far as I can determine, this is the first Cesarean operation performed in Indiana. The patient was the wife of Mr. John Held, who resided in the country 4 miles from Madison. Does not state whether an anesthetic was used. He administered "a free dose of the solution muriate of morphia, and waited an hour for its sedative effects." Fifteen minutes only was consumed in the entire operation.

Dr. Conway argues at some length for deciding to operate in the median line. It is to be regretted that he did not ignore this undisputed advantage, and have recorded some of the

weightier facts which would have given a better history of the case.—Cincinnati *Lancet* and *Observer,* July, 1863, vi, 401.

Case 2.—Dr. De Witt C. Denny, Ligonier, June 28, 1871. Mrs. L., age not given. Primipara. Assistant: Dr. E. W. Knepper. Mother died on the evening of July 1, "without any apparent inflammatory symptoms, but rather of exhaustion." Child—sex not stated—lived.

Some of the history of this case is worth reproducing because it "points a moral" and teaches a lesson. The patient, at puberty, began to suffer intensely from periodic pains, but her mother obstinately refused to permit an examination. After the lapse of a year some relief was afforded by Nature forming an opening into the urethra, through which the menstrual flow escaped with difficulty. In a few months this unnatural outlet closed, attended with distressing pain, when Nature again came to her relief by forming a fistulous opening at the inferior margin of the left labium. Strange to tell, she now married, and the mortifying fact that sexual congress could not be accomplished first became evident to her. "She now, accompanied by her husband, visited Cincinnati and consulted a surgeon, who performed a simple operation at the external outlet, which had the effect of relieving her suffering and permitting coition to the extent of about one inch and a half." Eleven years after this operation pregnancy occurred.

She was in labor about twenty-four hours without making progress — the outlet barely admitting the index finger. This condition complicated with a severe convulsion, led to the decision to perform Cesarean section.

The patient was at a farm house, 7 miles from the physicians, and cared for by "meddlesome neighbors who knew it all." Given a sensible mother in the beginning, and, if needed, a hospital and a good nurse at the end, things might have been different.—*Indiana Journal of Medicine,* November, 1871, ii, 310.

Case 3.—Dr. Moses Baker, Stockwell, Nov. 3, 1880. Mrs. Luther Lucas, aged 34. Primipara. Assistants: Drs. J. Crouse, D. H. Crouse, and L. Strother of Dayton; A. A. Wells and W. C. Lambert of Stockwell; John Simison and Pike of Romney. The mother made a rapid recovery, and the child—sex not given—was saved.

Necessity for operation: "I found the pelvis filled with a fibroid tumor attached to the posterior part of the uterus, involving the posterior lip and back part of the body of the uterus, so far up as to cause the womb to be immovably fixed above the pubes."

This, probably the third case of Cesarean operation in the state, was the first case where both mother and child were saved. Like the others, the operation was performed at a farm house.—*Indiana Medical Journal,* July, 1883, ii, 1.

Case 4.—Dr. Jacob R. Weist, Richmond, Dec. 26, 1884. Patient aged 24. Primipara. Assistants: Drs. John R. Rutledge, Cyrus N. Blount, and John W. Allen. Mother made a good recovery. Child—male—was lost.

Necessity for operation: extra-uterine pregnancy.

The woman was supposed to have reached full term, and the child was thought to be dead several days before the operation.—Letter from Dr. J. E. King, Wayne County health commissioner.

Case 5.—Dr. Jacob R. Weist, Richmond, Sept. 6, 1885. Patient aged 43. Primipara. Assistants: Drs. J. B. and J. M. Clark. Mother died twenty-four hours after the operation. Child—male—was saved.

Necessity for operation: "A fibroid tumor in the posterior wall of the cervix uteri was discovered two years ago; this grew slowly until pregnancy occurred, then grew rapidly. Filled the entire pelvis."

This case occurred in the practice of Dr. J. B. Clark of Economy, Wayne County.—*Medical Record,* 1886, xxix, 301.

Case 6.—Dr. Edward J. McOscar, Fort Wayne, 1888. Patient single, aged 27. Primipara. Assistants: Drs. Carl Proegler and A. P. Buchman. "Mother died eight hours after operation, result of hemorrhage which preceded operative interference." Child — male — was dead when the operation was begun.

Necessity for operation: "Patient had been in labor ten or twelve hours, and efforts at instrumental delivery had been made when called to the case. There was extreme laceration of cervix, and great depression from loss of blood. Patient was very corpulent; child of unusually large proportions."—Letter from Dr. E. J. McOscar.

Case 7.—Dr. Joseph Eastman, Indianapolis, July 10, 1888. Mrs. C., aged 39. Second pregnancy. Assistants: Drs. A. W. Pattison and J. F. Barnhill. Mother made a good recovery. Child saved.

Necessity for operation: This was an extra-uterine pregnancy of the tubal variety, the tube being unruptured. The sac was removed entire. "He was able to clamp the uterine end of the tube and the broad ligament and to cut away the portion which contained the ovum. He afterward quilted the stump with iron-dyed silk. The operation of Eastman stands as one of the finest achievements of American surgery."— Prof. William T. Lusk, in Keating and Coe's "Clinical Gynecology," page 760. Case reported in *Am. Jour. Obst.,* September, 1888, xxi.

Case 8.—Dr. Fred Jenner Hodges, Anderson, June 25, 1892. Patient aged 35. Primipara. Assistants: Drs. Horne, J. W. Hunt, W. J. Fairchild and E. W. Chittenden. The mother lived eight days and died from "sapremia, which

in her exhausted condition caused her death." The child—sex not stated—was saved.

Necessity for operation: "The cervix was markedly edematous. The head could not be made to engage, although presenting normally, and several times, before I was called, the long forceps had been applied."—*Indiana Medical Journal,* July, 1895, xiv, 37.

Case 9.—Dr. William H. Myers, Fort Wayne, Aug. 27, 1892. The patient—aged 22—a dwarf, rachitic, was 36 inches high. Primipara. Assistants: Drs. Null, Brudi and Gilbert. Porro's operation was performed. The mother made a good recovery. Child—sex not stated—was saved. She had been in labor twenty-four hours when Dr. Myers was called to see her at New Haven.

Necessity for operation: Deformed pelvis.

This seems to have been the first Porro operation in the state, and the second case in which both mother and child were saved—*American Journal of Obstetrics,* xxvi, 933.

Case 10.—Dr. John H. Ross, Kokomo, Aug. 30, 1895. Patient aged 38. Multipara. Assistants: Drs. J. McLean Moulder, William H. McClurg, La Marr Knepple, Scott, and L. Kern. The mother died soon after being removed from the operating table. The child—male—was dead when removed.

Necessity for operation: Mrs. A. had previously given birth to four or five children, "but always had a rather hard time." "Found labor coming on normally, but after waiting a reasonable time saw that there was no progress being made, and attempted to deliver with instruments but was unable to apply them."—Drs. McClurg and Knepple. These men then attempted turning but failed. The other four physicians named tried individually to apply forceps and turning, but failed. Two of the physicians favored craniectomy, and four Cesarean section, which was done. "The child weighed 17½ pounds; the head seemed to have no sutures but was as well formed as an adult."—Abridged from a letter from Dr. La Marr Knepple.

Case 11.—Dr. Charles Gerstmeyer, Terre Haute, Dec. 21, 1895. Patient aged 40. Third labor. Assistants: Drs. A. W. Spain, W. H. Roberts and Frank E. Wiedemann. Mother made a good recovery; still living, May 30, 1910. Child—male—still living at date just indicated.

Necessity for operation: "Firm tumor back of uterus compressing cervix against symphysis pubis."—Letter from Dr. Charles Gerstmeyer.

Case 12.—Dr. Frank C. Ferguson, Indianapolis, about Nov. 27, 1897. Patient aged 35. Primipara. Porro's operation. Assistants: Drs. Thomas B. Noble, Martha J. Smith, "and some two or three others whose names I cannot recall." Mother died on the fourth day after the operation. Child—sex not stated—is still living.

Necessity for operation: "A conjugate diameter estimated at from 2½ to 2¾ inches." "Futile efforts had been made to deliver by forceps."

The patient was taken to the Deaconess Hospital; the usual incisions were made, and the child delivered. "It was agreed that in view of the previous attempts to deliver by forceps that sepsis would more certainly be prevented if the uterus was removed. I therefore constricted the cervix as tightly as possible with a rubber catheter and passed two knitting needles at right angles through the cervix and below the ligature. The uterus was then amputated and the stump fixed in the lower angle of the abdominal wound, which was closed by catgut sutures, the wound being dressed antiseptically." On the third day she began vomiting, which resisted all efforts to control it, and died on the following day.

"Post mortem disclosed a small stitch-hole abscess at the upper angle of the abdominal wound; otherwise it had healed throughout. No evidences of peritoneal inflammation were found. The abdominal organs were all normal except a small portion of the ileum which was found obstructed by a catgut ligature, which caused her death."—Abridged from a letter from Dr. Ferguson. The history is largely from memory; the hospital at that time kept no records, and Dr. Ferguson's notes of the case were destroyed.

Case 13.—Dr. Orange G. Pfaff, Indianapolis, "spring of 1898." Patient aged 22. Primipara. Assistants: Drs. Morrison, Wright and Graham. Mother made a good recovery. Child—male—under six months—died in a few minutes.

Necessity for operation: "This was an interstitial pregnancy; almost unique clinically, and operation was undertaken to save the mother's life."—Letter from Dr. O. G. Pfaff.

Case 14.—Dr. Porter Turner, Elkhart, Aug. 15, 1899. Patient aged 27. Primipara. Assistants: Drs. C. D. Goodrich and A. L. Fisher. The mother made a good recovery. Child—female—was saved. Both alive at present time.

Necessity for operation: "Labor at full term complicated by large ovarian cyst, which was removed at time of operation."—Letter from Dr. Porter Turner.

Case 15.—Dr. Luzerne H. Cook, Bluffton (operation in Blackford County), June 12, 1900. Patient aged 34. Fourth labor. Assistants: Drs. M. A. Emshwiller and Louis Severin. Mother made a good recovery. Child—male—saved; now 10 years old.

Necessity for operation: Utero-tubal pregnancy.—Letter from Dr. L. H. Cook.

Case 16.—Dr. Adoniram J. Banker, Columbus, Sept. 30, 1901. Patient aged 42. Primipara. Assistants: Drs. W. H. Butler, S. M. Voris, W. T. Banker, and E. U. Wood. Mother died on third day. Child—male—was dead.

Necessity for operation: "Vertex presentation; no abnormality of pelvis. Patient had been a maiden lady, and married one year; was short and stout, weighing about 165 pounds. Could not deliver with forceps nor by version. Patient was much exhausted when I was called. Ordinary procedure in operation. Found a small fibroid about middle of uterus which caused an hour-glass contraction. The fibers of uterus did not yield."—Letter from Dr. A. J. Banker.

Case 17.—Dr. William H. Link, Petersburg, Oct. 25, 1902. Mrs. M. S., aged 21. Primipara. Assistants: Drs. Edward S. Imel and John R. Burger. Mother lived until twelfth day after operation; "the incision was healed by the first intention, but paralytic ileus supervened and caused her death." Child—female—lived. At this time, June 8, 1910, is nearly 8 years old.

Necessity for operation: Deformed pelvis. Mother was a dwarf who had been exhibited in Barnum's circus. Operation was done in a country house, under unfavorable conditions.

Dr. Link having passed away, Dr. E. S. Imel has kindly furnished me the above notes. Also reported in *Medical and Surgical Monitor*, Aug. 15, 1903, page 249.

Case 18.—Dr. Miles F. Porter, Fort Wayne, Jan. 24, 1904. Patient aged 35. Second labor. Assistants: Drs. H. A. Duemling, E. E. Morgan, and B. P. Weaver. Mother made a good recovery. Child—female—was saved.

Necessity for operation: "A large tumor which filled the pelvis and made delivery by the natural route impossible."—Letter from Dr. Miles F. Porter.

Case 19.—Dr. Martin K. Kreider, Goshen, April 28, 1904. Patient aged 25. Primipara. Assistants: Drs. A. J. Becknell, H. A. Lemon, and W. B. Kreider. Mother died on the following day. Child—female—saved; still living.

Necessity for operation: "Mother was a dwarf. Pelvis contracted: diameter considerable less than normal. The patient promised well until a short time before death occurred. She died suddenly, as from hemorrhage. No autopsy."—Letter from Dr. M. K. Kreider.

Case 20.—Dr. Charles Chittick, Frankfort, Feb. 24, 1905. Patient aged 18. Primipara. Assistants: Drs. W. B. Sims, W. J. Fernald, and R. N. Doyal. Mother died on second day. Child—male—was dead before the operation was begun.

Necessity for operation: "The patient had been in labor for forty-eight hours when I saw her; was almost worn out. At junction of sacrum and spinal column there was a bony protuberance forward that prevented the head from entering the pelvis. The child had been dead for twenty-four hours. The patient's temperature was 102 F. when I began to operate; she rallied from the operation, and seemed to be doing well until the second day when sepsis ended the chapter. Case was never reported."—Letter from Dr. Charles Chittick.

Case 21.—Dr. Hugo O. Pantzer, Indianapolis, March 9, 1905. Mrs. M., aged 39. Primipara. Assistant: Dr. E. F. Hodges. Mother died on fifth day from uremia. Child—sex not given—"lived about two years in good health, then died with measles."

Necessity for operation: "Tumor of cervix, size of adult fist, in posterior and left lateral location. Had granular, hyaline, and pus casts with more or less of albumin in urine throughout pregnancy."—Letter from Dr. Hugo. O. Pantzer.

Case 22.—Dr. Thomas B. Noble, Indianapolis, July 24, 1905. Patient aged 34. Second labor. Assistant: Dr. Henry Lohrman. The mother recovered. Child—male—was saved.

Necessity for operation: "Performed as an operation of choice and not of last resort. Had a small pelvis, and there was a hard, horse-shoe-shaped scar occupying the posterior vulvo-vaginal border, the cicatrix remaining from the perineorrhaphy previously performed."—*Indiana Medical Journal*, November, 1905, xxiv, 186.

Two Cesarean sections were performed in Indianapolis on this day; this and the succeeding case, only a short space of time—four hours—intervening. In each case the mother recovered, and both children—males—were saved.

Case 23.—Dr. Paul F. Martin, Indianapolis, July 24, 1905. Patient aged 17. Primipara. Assistants: Drs. John Wallace, Larue Carter, Charles Sudranski, and Fred Dickson. Mother made a good recovery. Child—male—was saved.

Necessity for operation: "A narrow parturient canal, a correspondingly small pelvis, edematous cervix, and a large caput succedaneum. This condition was complicated with eclampsia, the patient having suffered ten convulsions in the twelve hours preceding the operation, which was at 8:30 a. m."—*Medical Record*, Oct. 17, 1906, also *Indiana Medical Journal*, xxiv, 187.

See remarks at close of the preceding case.

Case 24.—Dr. Edwin Walker, Evansville, Dec. 16, 1905. History of patient not given. Assistants: Drs. J. Y. Welborn, W. R. Davidson, Cottingham, and Willis. The mother made a good recovery. The child—male—died on the day following the operation.

Necessity for operation: "A ventral fixation had been done some years before, which caused the uterus to rotate with each contraction; every effort to correct this failed."—Letter from Dr. Edwin Walker.

Case 25.—Dr. Walker Schell, Terre Haute, May 21, 1906. History of patient not given. Assistants: Drs. E. L. Larkins, McAlister, Stunkard, Trisz, and Tabor. Mother made a good recovery. Child—sex not given—saved.

Necessity for operation: small pelvis.—*Indiana Medical Journal,* December, 1906, xxv, 225.

Case 26.—Dr. John Kolmer, Indianapolis, Dec. 15, 1906. Patient aged 25. Primipara. Assistant: Dr. Don A. Anderson. Mother made a good recovery. Child—sex not given—lived about one hour.

Necessity for operation: "A narrow birth canal."—*Indiana Medical Journal,* March, 1907, xxv, 344.

Case 27.—Dr. Charles E. Angell, Delphi, April, 1907. Patient aged 38. Second labor. Assistant: Dr. C. C. Crampton. Mother made a perfect recovery. Child—male—was dead from craniotomy.

Necessity for operation: "Deformed pelvis. Forceps tried but failed; then craniotomy. The child was unusually large, and the woman had been in labor ten hours. The operation was performed in a farm house, almost in the dark, and no instruments except a pocket case. The result was perfect; the wound did not even get moist." —Letter from Dr. Charles E. Angell.

Case 28.—Dr. Hermann A. Duemling, Fort Wayne, Aug. 12, 1907. Patient aged 36. Seventh labor. Assistants: Drs. H. G. Merz, Sweringen, and Drayer. Mother made a good recovery. Child—female—living and well.

Necessity for operation: "Operation done for extensive adhesions to anterior abdominal wall and intestines due to peritonitis following gangrenous appendicitis in the seventh month of gestation."—Letter from Dr. H. A. Duemling, March 7, 1910.

Case 29.—Dr. Edward F. Hodges, Indianapolis, Sept. 29, 1907. Patient, colored, aged 20. Second pregnancy; first pregnancy had been terminated artificially at six months because of deformity of pelvis. Assistants: Drs. H. O. Pantzer, Louis Burckhardt, and R. T. Hart. The mother made an excellent recovery. The child—sex not stated—was saved.

Necessity for operation: The patient was a dwarf, 3 feet 10 inches high. She came to the City Hospital in September, 1907, pregnant fully eight months. As positive indications for Cesarean section existed, it was deemed best to await the onset of labor before operating. The woman fell in labor early on the morning of September 29. The usual preparations for laparotomy were made, and as soon as partial dilatation was accomplished, the operation was performed.—Letter from Dr. E. F. Hodges.

Case 30.—Dr. George F. Holland, Bloomington, Jan. 14, 1908. Patient aged 35. Third labor. Assistants: Drs. James W. Wiltshire and Warwick W. Klein. Mother made a complete recovery. Child—male—monstrosity—dead at birth.

Necessity for operation: "Size and shape."—Letter from Dr. G. F. Holland.

Case 31.—Dr. Howard O. Shafer, Chicago. Operation at Rochester, Ind., July 6, 1908. Age of patient 24. Primipara. Assistants: Drs. D. C. Hoyt of Chicago and George A. Hill, Athens, Ind. Mother made a good recovery. Child—female—normal baby well and strong, bottle fed.

Necessity for operation: "Mother very small, poorly nourished, with a generally contracted pelvis, and an internal conjugate of 5.5 cm. Mother had fallen on ice two winters previously, and since had hardly been able to sit up or get around with help. This was aggravated by pregnancy, and Cesarean section was decided on at eight and one-half months. Abdomen is in good shape, and partial paralysis which made operation imperative, has all cleared up. Both baby and mother are now in good health."—Letter from Dr. H. O. Shafer, May 10, 1910.

Case 32.—Dr. Miles F. Porter, Fort Wayne, July 12, 1908. Patient aged 24. Primipara. Assistants: Drs. B. P. Weaver, J. H. Gilpin and L. P. Drayer. Mother recovered promptly. Child—female—saved.

Necessity for operation: Placenta prævia.—Letter from Dr. M. F. Porter.

Case 33.—Dr. Budd Van Sweringen, Fort Wayne, Sept. 3, 1908. Patient aged 21. Primipara. Assistants: Drs. L. E. Brown and Garrette Van Sweringen. Mother made a good recovery. Child—male—saved, still living.

Necessity for operation: Deformed pelvis.—Letter from Dr. Budd Van Sweringen, March 30, 1910.

Case 34.—Dr. Hermann A. Duemling, Fort Wayne, Dec. 30, 1908. Patient aged 30. Primipara. Assistants: Drs. Smith and Morris. Mother made a good recovery. Child—male—lived three weeks and then died of enterocolitis.

Necessity for operation: "Mother was a rachitic dwarf."—Letter from Dr. H. A. Duemling.

Case 35.—Dr Hermann A. Duemling, Fort Wayne, Feb. 12, 1909. Patient aged 20. Primipara. Assistants: Drs. J. E. Hall and H. V. Blosser. Mother made a good recovery. Child —male—living and well.

Necessity for operation: "Mother was a dwarf —rachitic."—Letter from Dr. H. A. Duemling, March 7, 1910.

Case 36.—Dr Hermann A. Duemling, Fort Wayne, March 1, 1909. Patient aged 35. Seventh labor. Assistant: Dr. J. E. Brickel. Mother made a good recovery. Child—female—died following delivery.

Necessity for operation: "Mother came to hospital with a general peritonitis, due to gangrenous appendicitis—apparently *in extremis.*"—Letter from Dr. H. A. Duemling.

Case 37.—Dr. Hugo O. Pantzer, Indianapolis, March 21, 1909. Mrs. W., aged 26. Primipara. Mother made a good recovery. Child —sex not given—was saved.

Necessity for operation: "Within fifteen days of full term suddenly developed amaurosis in the morning, and had severe convulsions at 5 p. m., and twitchings with soporous state at 9 p. m., both indicating renewal of convulsions. I saw case at this time at private residence away from the city and at once performed vaginal Cesarean section and instrumental delivery." This is the first case reported where section was made by vaginal route.—Letter from Dr. Hugo O. Pantzer.

Case 38.—Dr. Charles E. Ferguson, Indianapolis, March 29, 1909. Patient aged 30. Primipara. Assistants: Drs. Herbert T. Wagner, W. A. Hughes, W. F. Hughes, and interns at St. Vincent's Hospital. Mother made a good recovery. Child—male—saved.

Necessity for operation: "Patient a Russian Jewess. Kyphotic. Transversely contracted funnel-shaped pelvis—male type. The diameters at the brim are normal: outlet barely admitted three fingers. Diameter 2¼ inches. Condition was complicated by a large cyst of the vagina. Patient's condition was recognized by Dr. Hayes before labor, and she was sent to hospital and operation done on the beginning of labor."—Letter from Dr. C. E. Ferguson.

Case 39.—Dr. Thomas B. Noble, Indianapolis, April 9, 1909. Patient aged 40. Fourth labor. Assistants: Dr. J. B. Jackson and City Hospital interns. Mother made a perfect recovery. Child—male—is still living.

Necessity for operation: "This operation was performed because of adherent right ovarian adenocystoma. It was size of cocoanut and tightly adherent in Douglas's fossa, completely blocking engagement of head at brim. Tumor was removed at operation."—Letter from Dr. T. B. Noble.

Case 40.—Dr. Walker Schell, Terre Haute, June 16, 1909. Patient, age not given, a primipara, at seventh month. Assistants: Drs. McAllister and Wyeth. Mother made a slow recovery owing to kidney complications. An asphyxiated child was resuscitated, and lived five days, and died of eclamptic convulsions due to poisons that had almost destroyed the mother.

Necessity for operation: The mother, at seventh month, was suddenly seized with convulsions. "The cervix was cartilaginous in consistence, labor not yet set in; the problem of delivery presented itself for immediate solution owing to the grave condition of the patient." After efforts under chloroform to dilate the cervix failed, and the convulsions continuing, Cesarean section was resorted to.—Journal of the Indiana State Medical Association, January, 1910, iii, 16.

Case 41.—Dr. Budd Van Sweringen, Fort Wayne, July 28, 1909. Patient aged 30. Third labor. Assistants: Drs. Garrette Van Sweringen and M. W. Tinkham. Mother died. Child—female—lived five hours.

Necessity for operation: "Eclampsia from toxin of liver origin (no albumin in urine, etc.)"—Letter from Dr. B. Van Sweringen.

Case 42.—Dr. Orange G. Pfaff, Indianapolis, Aug. 9, 1909. Patient aged 21. Primipara. Assistants: Drs. J. A. Pfaff, Conger, and Kingsbury. Mother made a good recovery. Child—female—saved.

Necessity for operation: "Large child; breech presentation. Forceps had been tried for several hours when I first saw her."—Letter from Dr. O. G. Pfaff.

Case 43.—Dr. Charles L. Wright, Huntington, Dec. 14, 1909. Patient aged 24. Primipara. Assistants: Drs. J. R. Hunter, C. H. Good and Helen K. McIlvaine. Mother made a normal recovery. Child—male—saved; weight 12 pounds.

Necessity for operation: "Occiput posterior presentation. Parents wanted a living child. Forceps were tried gently and with caution, but found dangerous. Time in operating, twenty-six minutes. Child was delivered through the placenta and no trouble from hemorrhage or otherwise. Placenta was delivered through the incision. Uterus was stitched."—Letter from Dr. C. L. Wright.

Case 44.—Dr. Orange G. Pfaff, Indianapolis, Jan. 27, 1910. Patient aged 25. Primipara. Assistants: Drs. K. Hershey, J. A. Pfaff, Kingsbury, Hobert, and Porter. "Mother died on twelfth day from infection resulting from premature absorption of sutures in abdominal wound."—Child—male—saved.

Necessity for operation: "Very narrow pelvic brim; slightly over 2 inches antero-posterior."—Letter from Dr. O. G. Pfaff.

Case 45.—Dr. Wallace S. Grayston, Huntington, Feb. 15, 1910. Patient aged 39. Primipara. Assistants: Drs. E. T. Dippell, B. H. B. Grayston, and R. Q. Taviner. Mother died on fourth day from "general peritonitis." Child—male—lived eighteen hours.

Necessity for operation: Flat pelvis.—Letter from Dr. W. S. Grayston.

Case 46.—Dr. John S. Morrison, Lafayette, March 8, 1910. Patient aged 31. Second labor. Assistants: Drs. R. B. Wetherill, G. K. Throckmorton, M. M. Lairy, and O. E. Throckmorton. Case of Dr. Earl Van Reed. Mother made a good recovery and nursed the child. Child—male—saved.

Necessity for operation: "Uniformly contracted pelvis. First child delivered by use of instruments which were applied for two hours: child's head crushed in the process, labor having lasted fifteen hours. The mother had a large goitre and much difficulty in breathing when recumbent; could not hold her breath or assist

accessory muscles because of goiter and dyspnea. Parents anxious to have living child, and selected section."—Letter from Dr. John S. Morrison.

Case 47.—Dr. Amos H. Caffee, Terre Haute, March 16, 1910. Mrs. B., aged 21. Primipara. Assistants: Drs. B. V. Caffee and E. V. Niblack. Mother made a good recovery. Child—male—lost.

Necessity for operation: "Central placenta prævia. Hemorrhage uncontrolled by usual methods, and dilatation impossible. Urine showed albumin and hyaline casts. Operation to save the mother."—Letter from Dr. A. H. Caffee.

Case 48.—Dr. Goethe Link, Indianapolis, May 11, 1910. Patient aged 19 years. Primipara. Assistants: Drs. George Wood and Leslie Maxwell. Mother saved. Child—male—living at this date, September 11.

Necessity for operation: "A fibroid tumor with calcareous degeneration springing from the right ovary. The tumor was ovoid in shape, a section measuring 4 by 3 inches. It was attached to a pedicle 4½ inches long. The tumor was impacted below the promontory of the sacrum, so that reduction was impossible, and the head could not engage. The pelvic measurements were normal.

"Much of the success of the operation I attribute to Dr. Wood's early diagnosis, and call for operation."—Letter from Dr. Goethe Link, Indianapolis.

Case 49.—Dr. Hermann A. Duemling, Fort Wayne, June 1, 1910. The home of the patient was in Warsaw, but she was taken to a hospital at Fort Wayne. Patient aged 30. Primipara. Assistant: Dr. Augus C. McDonald, Warsaw. Mother made a good recovery. Child—male—saved.

Necessity for operation: "Malformation of uterus. Probable septum between upper and lower uterine segments." It seemed to be well established that the patient's pregnancy was advanced to the tenth month. The waters had escaped some days before the operation.—Records furnished by Dr. A. C. McDonald.

Case 50.—Dr. Thomas B. Noble, Indianapolis, June 19, 1910. Patient aged 27. Second labor. Assistants: Drs. R. C. Ottinger and Norman E. Jobes. Mother recovered. Child—female—lived three days. It was poorly developed, and died without evident cause.

Necessity for operation: "Presence of fibroma in lower segment of anterior wall of uterus. It developed backward and over pelvic brim almost completely filling upper zone of bony pelvis."—Letter from Dr. T. B. Noble.

Case 51.—Dr. Thomas B. Noble, Indianapolis, June 21, 1910. Patient aged 41. Primipara. Assistants: Drs. W. T. S. Dodds and Truitt. Mother living. Child—male—living.

Necessity for operation: "Large child with justo-minor pelvis. Woman in labor thirty-six hours; no engagement. Forceps had been applied high up, but to no purpose, by another physician. Ten days after operation mother and child are doing well."—Letter from Dr. T. B. Noble.

Case 52.—Dr. Curtis Bland, Greensburg, July 17, 1910. Patient aged 16. Primipara. Assistants: Drs. James M. Wood, Ira M. Sanders, David W. Weaver, Charles R. Bird, and Charles B. Grover. Mother died at end of second day. Child—female—dead; partly decomposed.

Necessity for operation: "Deformed pelvis. There was a marked lordosis with a very prominent sacral promontory, making the true conjugate about two fingers' breadth—perhaps 4½ cm. The patient was a colored girl who had been in labor about eighteen hours when I was called. Forceps had been tried in vain. Atony of upper bowel developed, allowing accumulation of gas, which killed her."—Letter from Dr. Curtis Bland.

Case 53.—Dr. C. Richard Schaefer, Indianapolis, Aug. 20, 1910. Patient aged 27. Primipara. Assistants: Drs. Earl J. Cripe, Roy A. Terry, Hal B. Cox, and Algie H. Shock, senior student. Mother saved. Child—male—saved.

Necessity for operation: Toxemia of pregnancy. Labor expected September 10. August 20 without symptoms of labor, at 10 a. m., was seized with eclampsia, alterating with mania. General anasarca and almost total anuria. Urine almost solidified on boiling. Tachycardia with irregular and intermittent pulse was present.

Patient was removed to Protestant Deaconess Hospital and operation performed at 4:45 p. m. Time consumed in operation was thirty minutes, no ligatures were required, and total loss of blood did not exceed half a pint. No convulsions occurred after the operation. Mother began to nurse child on fourth day, and has continued to date, September 15, and both are doing well.—Letter from Dr. C. R. Schaefer, Indianapolis.

THE CONSERVATISM OF ELECTIVE CESAREAN SECTION*

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Every notable advance in surgery has been forced to fight its way through a sea of procrastinating obstructive antagonism into a current of enthusiastic exploitation, which has invariably swept past the goal and necessitated a tacking

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process, finally achieving for the great cause its normal, sane and permanent recognition at such an intermediate point as ripened experience has determined.

In the obstetric art, especially, conservatism has ever been the dominating spirit, and so strongly is this principle intrenched within the professional conscience that no radical departure from accepted custom can hope to achieve general recognition until it has first attracted the favorable consideration and approval of the obstetricians.

The parturient act has been for ages venerated as one of Nature's processes, complete and perfect in itself, and until recently was surrounded by a sort of mystical halo which repelled all tendencies toward interference with the operations of its sacred laws.

A man of considerable eminence, a professor in a medical college in this city some thirty years ago, was appealed to by a fellow practitioner to bring his forceps and terminate an advanced tedious labor in a wornout woman. He replied that he never had a pair of forceps and did not believe in them, and furthermore declared that "all you have to do is to let Nature alone and if there is a baby there, it will come along after awhile." Chloroform was early objected to on the ground that it antagonized the Creator's decree that the progeny of woman should be brought forth in sorrow and pain. However, the ages of superstition have passed, and we no longer venerate a physiologic problem because of its complexity but rather set courageously about its solution.

Note the simplicity and ease with which the young of practically all the lower animals are brought forth; the mare completes her labor in from five to thirty minutes; the sheep in about fifteen minutes; the cow in from one to two hours.

It seems that when we achieved the dignity of walking upright certain changed relationships brought about more complexity in pelvic evolution, which is the direct cause of many of the protracted, painful and often impossible labors with which we are familiar, so that as a natural process it may well be asked if labor in the genus homo is not one of Nature's failures; at best being "a compromise between the desired efficiency of the biped on the one hand and the necessity of procreation on the other."

The evolutionary defects have undoubtedly been emphasized and their dire effects heightened by the artificiality of civilized life, so that in the conduct of child-bearing we are frequently compelled to resort to the most strenuous ingenuity when brought face to face with many of the complications which arise.

In our eager efforts to solve most happily the difficulties which pregnancy so frequently presents, we must never forget the full weight of the moral obligation involved in the proposition that *the mother's safety is the paramount consideration and must not* be jeopardized by placing the rights of the unborn child in equal competition; although the health and expectancy of the mother together with her mental attitude on the vital questions involved may be considered as modifying factors in considering this proposition.

In the not distant past Cesarean section, as performed in rare cases and generally on dying women, was rightly looked on as a most desperate and truly horrible operation. It was done to save the life of the unborn babe and naturally not until after the life of the mother had been despaired of and was practically extinct. In some rare instances mechanical obstacles sufficient to render any other method of delivery quite impossible were early appreciated and the operation was undertaken at a time which offered the mother some chance for her life. However, the maternal mortality was exceedingly high, and until very recent times persisted as the unanswerable argument against Cesarean section excepting as a *dernier ressort*, and under such circumstances the wonder is that here and there the life of the mother herself was actually saved as well as that of the child.

Through the application of modern surgical principles to abdominal operations we long ago lost our old superstitious dread of "insulting" the peritoneum, and in this domain many modern miracles are daily wrought; but rather tardily was the special knowledge and technical skill of the abdominal surgeon brought to bear in dealing with the problems of obstetrical surgery, and on this account it is only within the last few years that sufficient data became available for the formation of any fairly reliable statistics, and the result has been a veritable revolution in this branch of the obstetrical art.

Little more than half a century ago the maternal mortality from Cesarean section for "relative indications" ranged from 50 to 85 per cent. To-day it may be put conservatively as definitely less than 10 per cent., and many long lists are quoted without mortality—100 per cent of success.

This wonderful showing has, of course, greatly extended the indications for the operation and it now includes many conditions which

were formerly never considered in connection with this procedure.

In the light of this brilliant modern conquest, which has made a very popular operation out of one heretofore scarcely tolerated, the danger that it may be too frequently resorted to will occur to every thoughtful mind.

In order to place the operation on a permanent plane, one which merits the recognition and will receive the endorsement of the entire profession, we must finally agree on: first, the indications for the operation; second, the necessary surroundings and equipment; and third, also the class of men who are justified in attempting this ever serious operation. When men began to operate at a time sufficiently early to give the mother some chance for her life, it was still an operation of last resort and was performed on a wornout and vaginally infected woman, which gave a maternal mortality of about 85 per cent. Under modern methods the mortality even in the delayed cases has been enormously reduced, but will inevitably remain much higher than in the primary cases, those which are set aside for operation before or at the very beginning of labor.

When a woman has been long in labor her resistance has been sadly impaired, probably the membrane has been ruptured, and the repeated examinations and futile attempts at forceps delivery have seriously infected the lower uterine zone. In this class of cases the operation is highly dangerous even with all the surroundings, paraphernalia and assistants of a first-class hospital, and the question arises in the mind of the experienced operator as to whether he should advise Cesarean section or choose perforation as less dangerous to the mother, even though in so doing the unborn life be deliberately sacrificed.

I believe that the pelvic organs of the parturient woman suffer from a special liability to septic infection, which is probably due to the stimulated activity of the lymphatics and the gaping gland mouths studding the engorged and boggy mucosa. We instinctively recognize the clinical fact in the feeling of absolute safety which accompanies all plastic surgery of these parts when performed during the resting state, and in contrast how exceedingly careful we are in all necessary operations in this field following delivery, to cover all raw surfaces so that infection may be warded off. Clinically it has been proved that in those Cesarean sections which have followed attempts at vaginal delivery, especially after rupture of the membranes, the mortality very greatly exceeds that of the same operation undertaken as a primary procedure and not complicated by the effects of vaginal manipulations.

In a word, we have found out that the death-rate in Cesarean section, just as in appendicitis, is almost entirely due to delay, plus meddlesome interference which is the twin brother of delay.

The reduction in the death-rate resulting from the application of modern surgical methods, even in those advanced and wornout cases of deformed pelvis which had been in agonizing labor for many hours, and in which futile and repeated attempts at forceps delivery had been made, induced physicians to call the surgeon earlier, and to this more than to anything else is due the splendid position of this benign and truly conservative operation to-day.

The present death-rate varies approximately from 2 to 5 per cent. according to the preponderance of advanced or early cases in a given list.

Lapthorn Smith says: "When every family doctor becomes skilful enough to recognize that a given head cannot pass through a given pelvis without serious injury to either mother or child, or both, and advises Cesarean section before using forceps; or even when he ceases in his efforts with the forceps before he has done serious injury; or even if he could do a moderate amount of damage without infecting the mother, then in the hands of an expert, Cesarean section would reach its highest perfection, namely, 100 per cent. of success, which indeed it almost reached in 1909."

Reynolds, of Boston, makes a strong plea for more systematic and careful observation of the puerperal woman, recognizing a class of "obstetrically worse equipped women, those with little nerve endurance or capacity for bearing pain, with poor muscles, weak hearts and lungs, and defective eliminative systems. These should be given careful and frequent constitutional examinations, and strenuous efforts to improve the defective functions should be made."

Those whose condition materially improves with the progress of pregnancy he would leave to the test of labor, as a rule, but even here he favors as prompt a delivery as possible so as to avoid any considerable degree of exhaustion. "On the other hand, if the obstetrically weak woman has retrograded we should consider with the utmost care whether she is not one of those for whom the inevitable fatigues of natural labor are worse than the disadvantages of predetermined operative delivery."

"In such a case, having decided on some form of operative delivery," he advises that either at the calculated date of term or with the advent of the first pains of labor, "she should be care-

fully prepared, fully etherized, and placed on the table as for a surgical operation with abundance of assistance present. That the mechanical conditions should then be carefully determined under ether, by pressing the head into the brim from above, and by the estimation of the laxity of the soft parts; that if the conditions are anything but easy, she should be subjected to Cesarean section. But that, if on the other hand, they are easy and the section thought to be unnecessary, the cervix should be dilated, forceps applied, and strictly tentative tractions made. If this procedure develops the existence of more than moderate resistance, section can still be done. If, however, the conditions are still thought to be easy, the child should be extracted by forceps and the mother returned to bed as after any other operation."

He is confident that in the hands of really experienced men such a procedure, so guarded, will be found to be thoroughly safe for both mother and child, and that the better convalescence and less subsequent morbidity of the mothers will, "in these extremely ill-equipped cases be in marked contrast to their condition when they have been delivered after being allowed to exhaust themselves in labor."

He holds that our right to the choice of a predetermined operation in place of natural labor, rests wholly on our ability to distinguish in advance the cases for whom "the exhaustion of natural labor is a greater disadvantage than the inherent disadvantages of all operative work."

He believes that men of ripe experience and skill can with a fair degree of accuracy determine which of these "poorly-equipped women are for intra-pelvic operation and which ones are for Cesarean section, and that such a method of differentiation and treatment will work for the greatest good of the greatest number."

Reynolds believes that in "the best trained hands the doubtful class is now a small and constantly decreasing one, and at all events it is no credit to the profession that for so many years its obstetrical members have been content to rest on the accepted statement: 'We cannot predict the results of labor in advance,' and have made no serious effort to attain that much-needed capacity."

The maternal morbidity following severe high forceps application and version is often frightful, while many a woman has had the uterus douched and curetted until she died from infection of cervical and vaginal tears. How many times we have been called in consultation wherein the woman has been in agonizing labor for a day or more and still the head was not engaged, the patient, the doctor and the family worn out and something had to be done. Two or three people holding the woman on the bed and two doctors taking turn at the forceps finally delivered a dead or badly injured baby. They bruised or lacerated maternal soft parts, or again we had to perforate the living head of a healthy child; as L. Smith says: "To kill it for no fault of its own but just because its mother's pelvis was too small."

"Whole chapters were written in standard books on obstetrics, describing how to kill the child and cut it up; but to-day such treatment would be unjustifiable in a city or near a city where a competent man can readily be found able and willing to do a Cesarean section and save both mother and child."

During the four years of 1906, 1907, 1908 and 1909, there were 17,716 births recorded in the office of the board of health in this city; and of this number 811 were *still-births:* almost 5 per cent. of the total births; a large proportion of these it seems without doubt might have been saved by surgical interference. There must also have been some maternal mortality and a very great amount of maternal morbidity in some of the abnormal confinements which are represented by so large a percentage of still-born children.

Also consider the weaklings, the cripples, the defectives, the dumb, the epileptic—sorrowful monuments of the dark ages of laggard obstetrics. We cannot escape the responsibilities of our increasing knowledge and these grave questions will not down until rightly settled—as appendicitis has been settled—but the obstacles to be overcome appear more formidable and the method of attack less direct.

The family physician, who bore the brunt of the fight on appendicitis and who is emerging from his former unpleasant relationship to this wellnigh mastered enemy, must to the largest extent carry the burden of this new contest.

The advanced work must be the assignment of the skilled clinical obstetrician, the worker in the lying-in hospital, the student of the pregnant woman. He must learn and teach us some new things in diagnosis and prognosis. Mere measurements will not do—the length and degree of curvatures, the tilt of pelvis, the significance of flat backs, bandy-legs, of protuberant buttocks and squatty pelvis. Delicate health and general non-resistance require serious consideration from the obstetrician.

Through the systematic and fruitful study of an abundant obstetrical clinic from this modern view, the expert will be able to predict with

much accuracy in a large majority of cases the outcome of labor; and with this working diagnosis the cases for Cesarean section may very early be determined, and the primary operation will be performed at the elected time and practically without mortality.

I have but three cases to refer to and these very briefly: all were operated on at St. Vincent's Hospital, one an interstitial pregnancy operated at six months; the mother making a prompt recovery. The second, at full term after more than twenty-four hours of violent labor with many attempts at forceps extraction; both mother and child saved without any complication in recovery. The third case labored all day and far into the night. Going up into the country in consultation, I found a deformed pelvis, less than 3 inches in the transverse diameter. I secured a special car at 1 o'clock in the morning and brought her to St. Vincent's Hospital. The membranes were intact and she had not been violently handled. The operation was quickly gotten through with and for several days everything looked well, when on the fifth day a rise in temperature and pulse-rate prompted an examination of the wound. It appeared to be perfect. The symptoms increased and the next day the wound was again examined and found to have opened, and the omentum presented at the upper angle. The catgut had evidently been absorbed early and the peritoneum and deep structures had retracted allowing the omentum to become a wedge, which gradually forced its way to the surface. I resutured with catgut and reinforced the entire wound with silkworm gut. However, the cavity had already suffered infection and on the twelfth day the woman died. The death is properly chargeable to a surgical accident such as might occur in the simplest abdominal section and bears no relation at all to the specific cause for which the woman was operated on. I am glad to say the child is alive and well.

It seems that modern surgery has endowed the unborn child with new rights. It is certainly worth the comparatively small risk to the mother and she will almost invariably choose the operation when consulted. Perforation of the living head where hospital facilities may be had is a crime which I shall never again commit. Only in poor surroundings and especially after vaginal violence is it to be considered.

When evident misproportion between the passage and the passenger exists, Cesarean section is the only duty. In grave albuminuria and placenta prævia, it is the safest course. In many cases of general debility and poor resistance it is the most humane procedure.

The medical profession does not need a lecture on conservatism and we are all aware of the fact that here and there men of poor judgment, little conscience and less skill will hereafter as heretofore be ready to reach in and do unjustifiable things; also that good men may occasionally be misled and do an unnecessary operation. But if we are true to our traditions, and if real conservatism is to abide with us so that we will as ever insist on the greatest good to the greatest number and continue to have the courage of our convictions, we must acknowledge that a new era in obstetrical thought and practice has arrived, and that we must be willing to apply our enthusiasm to the solution of the entailed problems which confront us.

My conclusions are briefly these: that elective Cesarean section is one of the safest of major operations, being favorably comparable with the interval operation in appendicitis; that is, it shows a mortality conservatively estimated at 3 per cent. or less when performed by capable surgeons in well-equipped hospitals.

That this low mortality by no means excuses unnecessary operations, but it certainly justifies us in undertaking this procedure for various indications not heretofore considered as valid.

That when experienced judgment decides that a debilitated, poorly-equipped woman is to encounter any serious danger in natural delivery, Cesarean section is the safest course.

That it is the best course in grave albuminuria before the onset of labor; in placenta prævia immediately on recognition of the condition. Whenever through a deformed or narrow pelvis, or one obstructed by any growth; or because of an unusually large child natural delivery is impossible, section is the only humane procedure.

Cesarean section is purely and exclusively a hospital operation and is to be placed on a firm basis through a careful study of the work of those experts who in our large maternity hospitals are devoting their lives to the development of this most beneficent and truly conservative procedure.

DISCUSSION

Dr. Walter Schell (Terre Haute): I take it that this society feels very grateful to Dr. Kemper for his able paper, for the interest he has shown in Indiana medicine in preserving this history, and certainly we ought to be proud that a man of his years should grow old so gracefully. May God preserve him long in our midst. (Applause.)

For the most part his paper was entirely historical, and his conclusions well drawn. I

would especially be inclined to agree with him that Cesarean section should not be a matter of last resort. I am glad that these two papers were read before the Indiana State Medical Association, because I feel that obstetrics has been a neglected field. It is a field that has appealed very little to men, because of the arduous labor connected therewith, the immense amount of time one must devote to the case, and the poor reward in the end. The capable obstetrician is deserving of his reward. It is as difficult to make a proper high forceps application as to do any operation within the realm of surgery, and the reward should be proportionate. Any man who has ever performed this operation, any man who is capable of performing this operation properly, is competent to do anything that any other surgeon can do, therefore he should have a proportionate recognition of his knowledge and skill. Obstetrics is not by any means a non-progressive science, but a science that should be studied in the perfection of its details.

Now, Cesarean section should not be an operation of last resort. If a man is a properly trained obstetrician he should know in advance that in a given case he will probably have trouble. He should know within relatively narrow limits the kind of trouble he is going to have—if he has measured the diameter of the womb, if he has a clear conception of the anatomic formation of the pelvis, and if he has some knowledge of the size of the child. These things are important, and if he knows these conditions relatively he will be able to meet them intelligently. Every woman who engages you for confinement has a right to expect of you your very best service and knowledge. You should not go to an obstetrical case, having only seen the woman for the first time when you are called. If you do, you do the woman an injustice. You are a discredit to your profession.

Now, these operations that were narrated in the history by Dr. Kemper, wherein the results of operations by accidental deliveries exceeded the results of men, were due to the fact that these operations were quickly performed by violence. In the past physicians hesitated somewhat to quickly and promptly perform this operation, and this delay in the extraction of the child, this delay in placing themselves in position to control hemorrhage, was one of the reasons for this immense mortality. This operation received a new impulse and new life and took on new surgical aspect after the time of Sawyer's writing, when he established the absolute necessity of gradually closing the wound in the uterus. Previous to Sawyer this was only rarely done, and the material with which it was closed was very imperfect and very imperfectly asepticized, and that accounts for the mortality that the older operators in this operation suffered.

Now, as to whether this operation—Cesarean section—is safer than the forceps or traction operation, all depends on the character of the forceps operation. If you have a high forceps operation where the pelvis diameters are less than 10 c.c., and the child above average size, then you have a case where you may inflict on the woman wounds that may result, if not in death, in making her a cripple for the rest of her life owing to these wounds. I feel that the high forceps operation is an exceedingly difficult operation to make.

Only a few days ago I was called to a woman, and her past history gave me the following facts: nine years ago she was delivered, in the city of Chicago, of a child after five days of labor left to Nature. She was relivered, by a high forceps operation, of an 11-pound child. It is almost inconceivable that in a city which is such a center of medical knowledge as is Chicago, a woman should be allowed to be in unsuccessful labor for five days. When she came to engage me I found on examination that she had a generally contracted pelvis, with a conjugate of less than 10 c.c., and with evidences in the later months of pregnancy of a child of large size. I said I doubted the possibility of extracting a living child, and I obtained her consent that if at the time of confinement difficulties were encountered, I might do the Cesarean section. Water broke with the very first pain, or indeed, without pain, and she continued during the whole day without pain, so much so that the next day she was free from pain; and owing to an urgent professional engagement in consultation I ventured, with the knowledge that she probably would not need me, to meet that professional engagement. When I returned the woman still had no pains. I said to her frankly that no woman continues in labor for two days without there being a disproportion between the size of the child and the diameter of the pelvis. When you have a case, gentlemen, in which, after twenty-four or forty-eight hours of the rupture of the water, when there is no engagement of the head of the child, there is a disproportion between the size of the child and the diameter of the pelvis, and such a disproportion that labor cannot successfully occur. So I said to her that she should go promptly to the hospital for Cesarean section; but, owing to family affairs—these things break in on our practice, no matter how correct our theory may be—and consulting with different members of the family in other places, the matter was delayed; and that night, the pains coming on and being severe, I attempted to make a forceps extraction, not being permitted to make a Cesarean section. The woman was anxious for a living child and should have had this privilege. I made a high forceps application with considerable difficulty, because in nearly all these cases where there is a dispro-

portionate diameter there is engagement of the transverse diameter. This head lay practically in the transverse diameter with the occiput to the right, a position where the application of forceps without rotation is absolutely impossible, as the forceps will not hold, so I was compelled to rotate the head with the forceps, a thing which is exceedingly difficult to do successfully; not only difficult, but dangerous to the mother and child. In this case, with the application of force from above and moderate traction, the head was delivered and the child made an attempt to breathe; but I discovered the cord was around the neck. After the head was delivered I discovered that pulsation had ceased, and I said to the doctor and nurse that this child must be extracted within one minute. They put on all possible force, and a child with massive shoulders, a child weighing 14 pounds was delivered, but the cord was so compressed that when the baby was born it was dead beyond all hope of resuscitation. This is one illustration of a case where you have successful extraction of the head, where you have a living child, but with these massive children the operation is so dangerous to the cord itself that unless you extract the child promptly you have lost it.

Now, all this risk is done away with in Cesarean section. If a man extracts a child by Cesarean section, in practically every case he will extract a living child, and I say, as some of the essayists have said, that we have no right as physicians to take human life; and I say, with a consciousness of my work, that if the life of the child is not equal to that of the mother it is almost equal, and it is not for us to decide that we will take that life. Life is the gift of God, and it is not the province of physicians to destroy life, but to save it.

Dr. M. F. Porter (Fort Wayne): I owe this body and these essayists an apology for not having been here to hear the whole of the papers. My excuse is that I was attending the meeting of another body. I therefore have not heard Dr. Kemper's paper, although I heard a part of the last one. I shall therefore say what little I have to say rather on the general subject of Cesarean section than with reference explicitly to these papers that have been read.

First, I want to commend what Dr. Schell said in conclusion. Personally, it has been years since I have consented, nor will I ever consent, to doing a craniotomy on a living child, unless it is a monster or something of that sort. I do not think I have any right to do it. I know personally that I can deliver the woman by Cesarean section and give her a better chance for life than I can by high forceps application, if there is nothing outside the disproportion between her pelvis and the child, and knowing that, I will deliver her in no other way. If she is delivered any other way she must get somebody else to do it. I have a few idiot children around this country—I will not have any more. I have a few crippled mothers, because of so-called obstetrical operations—I am not going to have any more. I want to say that I think this line of surgery has been very much neglected. Do you know that more than half of the mothers are delivered without the presence of a physician, and yet we all know that when a woman comes out of labor she comes out under conditions that make it necessary for her to undergo inherent risks far greater than she would undergo in any ordinary surgical operation.

In a large percentage of high forceps deliveries the child is seriously injured; 50 per cent. of these children so injured are injured permanently; 30 per cent. subsequently become epileptics; 20 per cent. of the children in the Indiana School for Feeble-minded are there because of a high forceps operation.

I undertake to say that in the light of these facts we must stop in large measure these brutal so-called "operations," for they are brutal.

Now, let us look at the mother for a minute. She has a right. What are the facts? The morbidity after this operation has occurred to the mother is as great as Cesarean section done by an intelligent hand and under proper circumstances. I undertake to say that Cesarean section performed by a competent hand and under favorable circumstance—and there is no reason why the mothers should not have this chance—that the next 1,000 Cesarean sections will show you a mortality rate of less than 1 per cent. These are the facts, gentlemen.

I want to ask the doctor one question—I want to emphasize and make a point of it. What did you sew that belly with at the first opening? (Answer, catgut.) No man has any business to sew a belly with catgut. I sewed hundreds and hundreds with catgut and never had any trouble, but some of my friends had a good deal of trouble, and I found they were using silkworm sutures. I asked them what they did that for, and they said they had had these wounds break open. So I learned from their experience. Use stay sutures in mid-line sections. If that had been done in this case, the wound would not have opened at all. We must learn to lessen this work, and each one must learn from the other's experience, and not wait to be taught by this expensive teacher as individuals.

So far as the morbidity of the child is concerned no man can deliver a woman and give the child as good a chance to get well by ordinary delivery as he can by Cesarean section. The fact is the risk to the child is infinitely less than by ordinary normal labor. You cannot give the child as good a chance by ordinary labor as by Cesarean section.

The greatest objection to this operation is that it takes some talent to do it. I undertake to say

that any man that becomes competent to make a high forceps application can be taught in half the time to do Cesarean section and do it right. Really, the Cesarean section is a simple operation as compared with high forceps operation.

In conclusion I simply want to say that in so far as I heard the paper I agree with it and its conclusions, and I think all of us should go to work and try to do something to give these mothers in Israel a fair show. We have not been doing it up to date.

Dr. Joseph N. Study (Cambridge City): From one standpoint this has been argued, but I did not hear much of the papers. I will base my arguments largely on what has been said by the two discussants on this subject.

I think it is time physicians throughout the country were knowing more about this important subject that is under discussion. From one view point the argument made by Dr. Porter is excellent, and Dr. Schell, too. There is a class of cases, however, that you do not say much about. When we take into consideration the vast number of women who bear children, women situated so that they cannot have the advantage of a hospital, and they are seen at a time in their confinement when they cannot be taken to a hospital, and at the same time an operation such as Cesarean section almost necessarily requires hospital facilities. I would like to know what is to be done in this class of cases that are well advanced in labor, and something is demanded immediately. It is true, the high forceps operation does lots of injury to the child, and it is true that a great many of these feeble-minded children are due to this fact. But at the same time a doctor is frequently called into a case of confinement where labor is well advanced; something must be done immediately; it is the concensus of opinion of two or three good physicians that something must be done to save the woman's life. In such circumstance, if you have a condition where the child cannot be born through the natural passage without reducing its head, it seems to me proper and just that the operation of craniotomy be done, if the child cannot be delivered by forceps or otherwise.

Dr. F. A. McGrew (La Porte): In connection with these two most excellent papers, I want to place on record an unusually interesting and unique case of Cesarean section by accident.

The woman was a young woman, healthy and vigorous, a farmer's wife living five miles out in the country. The time had about come for her confinement, and one day while sitting in the kitchen, her brother, sitting about ten feet away, had a shot gun across his knees and was cleaning the barrel. The gun was discharged and the full force of the shot entered this woman's abdomen. She was within two weeks of confinement. The whole front of the abdomen wall and the whole front and upper part of the fundus of the uterus was torn away. The placenta was also torn loose and the child was about half expelled into the outer world; the buttocks and back of the child protruded from the abdomen. The woman walked into another room to her bed, where she lay down and was covered up with ordinary clothing of the bed. About an hour after that an operation was undertaken on an ordinary kitchen table, and the house was none to clean. The woman's condition was much better than might have been expected. She was pale and somewhat anemic, but her pulse was fairly good and she was a woman of great nervous force. She stood the operation well. The child was extracted—dead, of course—the uterus was removed through the cervix and the stump fastened against the lower end of the abdomen roof against the peritoneum, so that drainage could be instituted. Three or four days later she was removed to a hospital, in order to have the benefit of a trained nurse and better attention. She recovered without incident. However, about six months later I was compelled to operate once more for intestinal disturbance, and on opening the abdomen I discovered that the cervix and peritoneum, where they had been fastened together, had drawn out into a band, and the band was the cause of the intestinal disturbance. The band was severed, the intestine was in good shape, and the woman once more recovered without complication, and she is now in good health, doing her own work, and you would not know from her appearance that she had ever had anything the matter with her.

Dr. Schmauss: I want to congratulate both essayists on their excellent papers. I believe that Dr. Kemper will give quite an impetus to this operation, and in cases where there would be serious laceration, I think it will be very desirable that this operation be done more frequently in the future.

The last case given, I see no use in bringing up the cervix stump to the peritoneum. It could have been drained through the vagina. The case mentioned at St. Vincent's Hospital, and which has been alluded to since, was undoubtedly due to hasty work, and I would like to caution every physician against haste in this work. As long as the mother is in good condition and the child is alive, there is no need of haste, and if this case had been carefully sewed and they had put on adhesive strips, this accident would have been avoided.

One of the hardest things to decide in these cases is when to perform the Cesarean section or the high forceps operation. It is not so much the question of the living child as the question of lacerating the mother. I have had no trouble in putting on high forceps as regards the life of the child, but the worst trouble is the lacerations which sometimes are very difficult to cure.

Dr. Paul Martin: I simply want to emphasize a few points. We all know that the personal limitations, both in patient and surgeon are great, and we cannot fix certain rules to cover all cases. But Cesarean section has made such great progress that in expert hands the increase can be clearly defined. In expert hands the maternal mortality rate is less than 2 per cent.; the fetal mortality is nil, and if we undertake always to do an elective Cesarean section rather than that of emergency, I am sure this rate can be very much reduced. Speaking of contracted pelvis, in general in contracted pelvis the fetal mortality rate is 20 per cent.; from forceps, 35 per cent. to 60 per cent.; by inducing labor, the rate is 30 per cent. There are certain other cases, simply a slight narrowing of the pelvis, or a rigid, hard cervix and unyielding soft parts, which may be directly responsible for incompetency for normal labor. This should be recognized, and early conservative methods adopted. Cesarean section affords less risk to the child than the other delivery, and perhaps equal chance to the mother of a healthy life.

One more word about the dangers of forceps application. I believe that to-day the morbidity of the mother and the fetal mortality in the results which we get, are due to the inefficient application of the forceps, and the dangers of the application of forceps I do not think can be overestimated.

THE NEW DOCTOR

A REPRESENTATIVE OF THE TWENTIETH CENTURY IDEA *

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One of the inspired poetical pensmen of the Old Testament history, who was richly endowed with wisdom and genius of thought, is quoted as saying: "The thing that hath been it is that which shall be; and that which is done it is that which shall be done; and there is no new thing under the sun."

From these premises, as embodied in the formula, if we correctly interpret the product of the master mind, and which doubtless voiced the philosophy and the current sentiment of the alchemists' findings of that age, we draw the following deductions: (1) that there is no abatement of the proportional elements in the molecular mutations; (2) that the molecular mutations evolve identical expressions. The equation is that there is nothing gained and there is therefore nothing lost—vanity of vanities, saith the preacher, all is vanity.

And that which was true of that age along the line of scientific study and investigation was relatively true of the succeeding ages for the contents of the consciousness is but the concept of the imagination, and thus their cherished ideas were perpetuated at the expense of suffering and bloodshed. Inculcated with this idea, warriors won fame, statesmen triumphs, while scientists, teachers, authors, philanthropists and physicians influenced intellectual life who promoted the corporeal well-being, until there appeared on the stage of action the Jesus of Nazareth who formulated new ideas, established correct premises from which He drew proper deductions and read the Decalogue with a new spirit: yea more, He interpreted prophecy correctly and gave new meaning to traditions.

But as many of the great reformers who had lived, He likewise became the subject of prejudice, a victim of bigotry and superstition, and though His death was premature, yet in His life, so full of good deeds, He exemplified indeed a true service in unrequited labors and a complete sacrifice; He taught the responsibility of brother to brother, gave relief to suffering humanity, placed the healing art on an imperishable pedestal, and willed to the sons of Æsculapius a priceless heritage.

But they were not all infidel who worshiped at the shrine of Æsculapius, and doubtless there were many whose devotion was intensely genuine. From these therefore, who are the lineal ancestors of the "new doctor," came his natural endowments, and if it be true that good men's lives live after them, it is surely manifest in him who is the representative of the idea of the twentieth century doctor.

In the advent of the "new doctor" into our town, we quickly become cognizant of his presence by his striking personnel. His dress and his deportment bespeak for him discipline and refinement, and on our introduction to him, for he is come-at-a-ble, you will be greeted with a versatility of his knowledge. Therefore, having acquired a degree of his confidence, for he is naturally secretive and quite reticent to assume the initiative in discussing the greater problems in medicine, he quickly imparts to the inquirer an easement, and enters at once on the discussion of the greater achievements which have been wrought and the marvelous discoveries made in medicine and medical science during the century just closed. However, says he: "It has been only during the last twenty-five years of the century past that the more startling revelations have been made."

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* Read by title at the Fort Wayne Meeting of the Indiana State Medical Association, Sept. 30, 1910.

In the year 1809, Ephraim McDowel, a Virginian by birth, and a resident of Danville, Ky., is rightly given the credit of performing the first successful ovariotomy. William T. G. Morton, a dentist by profession, when but 27 years of age, demonstrated to a company of men at the Massachusetts General Hospital a successful anesthesia by ether, and though the newspapers in their editorials derided and scoffed him, physicians criticized him, and the clergy even declared it impious to rob God of the groans of the suffering of mankind, yet both abroad and at home he soon enlisted many ardent followers.

In the year 1876, Lewis A. Sayre, eminently a surgeon of international reputation, aroused an intense interest in his use of the plaster-of-Paris bandage in Pott's disease. In the year 1867, Willard Parker won world-wide fame in performing the first appendectomy, and demonstrated the propriety of an early operation on opening an abscess in right groin.

In the year of 1818, Valentine Mott tied the innominate artery. In the year 1852, J. Marion Simms is credited with reading a paper setting forth the feasibility of operating for the cure of vesico-vaginal fistulæ. John S. Bobbs was the pathfinder in the operation for biliary calculi, since in the year 1867 he opened the gall-bladder and evacuated a number of calculi. While Nicholas Senn, a world-wide clinician and surgeon who won distinction both in peace and in war, by his study of the etiology of typhoid fever, has acquired a name that is well worthy to grace the Hall of Fame.

These are they who have paved the way for research and have opened up avenues however tortuous and difficult of access that will lead to greater and more marvelous achievements ere the close of the twentieth century.

Awakening from the reverie into which the "new doctor's" thoughts had led him, he breaks forth in the brilliancy of his psychologic powers and remarks that the science of medicine has just now entered on a new era, and henceforth facts and not empiricism will characterize the work of the craftsmen, for a certitude in metabolism is the measure of vital affinity and of the inherent opsonic energy.

During the nineteenth century the coterie of surgical instructors used the accepted hypotheses as a working basis. A laparotomy was an accepted practical fact of a pelvic or an abdominal lesion; an appendectomy a natural result of disturbance of the cauda mammalia; cancer was purely a prey of surgery; the "white plague," the finale of which was certain death, while influenza the personified "grip" with its anticipated detail of ills was recognized only to multiply the death-rate without any relief.

But we have made new discoveries in the passing of the century just closed, and from these new formulæ have been written, correct premises established and well-approved deductions. The exploratory incursion of the pelvic or the abdominal cavities are anticipated only when certain bacilli have invaded Nature's sanctum; while tuberculosis, pneumonia, influenza, diphtheria, tetanus, rabies, yellow fever and cholera, whose etiologic factors have been so clearly defined will be eliminated from the category of diseases when serotherapy has been thoroughly understood.

Myxedema, the unsightly character, is now trained into symmetrical form and beauty by the use of thyroid extract. Diphtheria with a mortality of 42.46 per cent. per 10.000, from 1875 to 1890, from 1890 to 1894 was reduced in mortality from the use of antitoxin to 3.35 per cent. per 10.000. Even pellagra, endogenous to Italy, but which in some way secured a passport to these United States, the toxins of which are found in the unripe and fermented maize and ingested by unfortunates whose vitality has been lowered because of insanitary surroundings and vicious habits, begetting a long train of constitutional troubles, has met its Waterloo.

Nor is this all. The sons of Æsculapius have not been content with endogenous conditions but they have entered foreign fields and have made it possible to live without restraint or fear in Cuba, Panama, Porto Rico, and the Philippines. In short, they have encircled the globe for humanity's sake and impregnated the world with their knowledge.

It is true, speaking with an air of reserve, that in the study of the etiology of disease, we must be able to separate the psychical from the bacterial as this will materially aid in the diagnosis, prognosis, and as well suggest a less complex and more suitable therapy.

Psychotherapy, which parallels physicotherapy, is as old as human history, and there is abundant proof that we have now entered a period when especial emphasis will be placed on it; however, the great danger will be the lack of seriousness in its consideration and the want of thorough investigation, for a remedy which has proved itself of such apparent value, ought not to be allowed a place alone with the unscientific but cordially welcomed into the domicile of the scientific, as a potent factor in modern therapy.

The practical application of psychotherapy as implied in the cure of disease is comparatively new. The experiment began about twenty-five

years ago. At this time there was but one psychological laboratory, but to-day there is no university which has not a well-equipped laboratory with instruments for the study of the emotions, memories, ideas, feelings, sensations and actions.

Psychotherapy, even in the beginning of this the twentieth century has displaced many of the older forms of therapy, especially of the neuroses, while farther developments along different lines will doubtless exceed our most sanguine expectations. In the realm of the physico-psychical, there is recognized a personality and the normal health of this personality is a complete equilibrium in the function of the organism which adjusts the activities to the surroundings; while abnormal health is a disturbance of this equilibrium of adjusted function, and wherever this equilibrium of adjusted function is disturbed some form of therapy is demanded. This personality maintains both a purposive and a causative relation to remedial agencies; the causative deals with the contents of the consciousness of this personality as the inner or psychologic life, while the purposive deals with the actions of the outer or physical life. And though there is a sharp line drawn between these two physico-psychical integers, yet there can be no disturbance of the causative without affecting the purposive. Therefore, suggestions and bromids together may act remedially on this personality which neither of them alone would.

It is indeed unfortunate that physicians will in the presence of undeniable proof maintain a stoical attitude toward orthodox psychotherapy, while the larger public are converts to it. But time will doubtless soften asperities and ere another decade has passed the child of psychotherapy will be recognized and honored throughout the scientific world.

Some one has wisely remarked that this is the golden age of scientific medicine, and well they may when Lister, Pasteur, Koch; Barker, Mitchell, Cabot, Putnam; McKombs, Worchester, Münsterberg and Dubois have made it possible to witness the marvelous achievements in preventive, remedial and curative agencies on diseases. And while it is true that many barnacles have gathered on the hull of the old ship of scientific medicine in its perilous voyage across the seas of preventive, remedial and curative philosophy interspersed as it has been with the many isms and factions, yet the brilliant sons of Æsculapius of the twentieth century will be able to dry dock her and remove every vestige of the accumulated débris and launch her again on her voyage for humanity's sake with the salutatory message for all who will avail themselves of her munificence.

But finally in closing this most interesting interview, it is possible that with the applied agencies at our command of the microscopic, the macroscopic and the chemical, an accuracy in diagnosis of disease is anticipated and but little less than criminal is he who will not avail himself of the necessary applied agencies. And these availabilities naturally suggest that we are going some; but we must remember that we are living in the century of definite deductions drawn from correct premises.

This also suggests that our means of locomotion should correspond with equal speed and character. The faithful steed with his master astride was displaced in turn by the gig, road wagon and carriage, and these by the velocipede, tricycle and the bicycle, and these by the automobile and the autocycle. But yet we are not satisfied with this extraordinary means of moving and are already testing flying, Nature's way of doing things, which will doubtless supersede all others as a medium for relieving suffering humanity.

In conclusion let me say that in all this the Indiana State Medical Society, composed as it is of the best brain and sinew, is not a whit behind in availing herself of everything that will work out that which is the greatest of all problems, namely, the healing of the nations through the God-given agency, *vis medicatrix Naturæ*.

In this article I am pleased to credit Prof. Hugo Münsterberg with a number of quotations and ideas gathered by perusing the very valuable treatise of his compilation on psychotherapy.

BONE TRANSPLANTATION

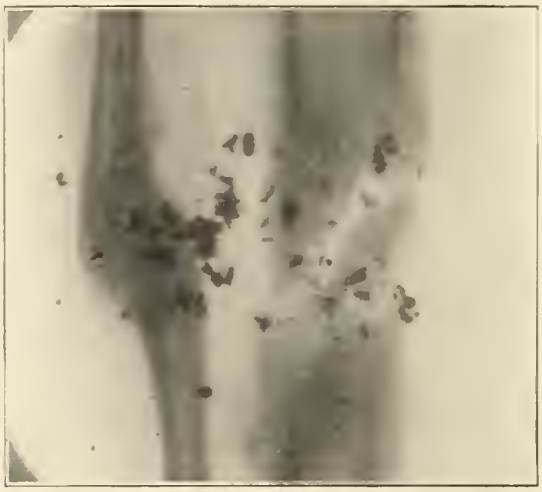
David Ross, M.D.
INDIANAPOLIS

Whether bone surgery has been considered so easy that any one may master it, or so difficult that but few may attempt to deal with it successfully, I do not know, but until recent years at least this field of surgical endeavor has not received the attention which was its due. One thing is certain: to gain similar results in any line of bone surgery requires greater effort and skill on the part of the surgeon than in any other line.

The *x*-ray has shown us that fractures, which everyone is supposed to possess requisite skill to treat, often are but poorly treated by those supposed to be expert; Lorenz did much to call atten-

tion to the possibilities in bone surgery and to dignify the work in this line.

Plastic work in this line has progressed very slowly. First because of the nature of the tissue with which the surgeon has to deal, and in the second place the disease or accident that makes such work necessary often leaves the tissues and



Taken before operation, showing fracture of fibula and tibia and destruction of tibia.

field of operation in such an undesirable condition, not only from the destruction of tissue but from the deplorably septic condition which we find, that often the surgeon is driven to radical measures, as far as the member is concerned, in order that he may conserve life. Every operation that in any way mutilates is a cause of regret to every true surgeon, and every operation where the organ is saved and function restored is cause for congratulation; but in spite of this, amputations will continue to be necessary in many instances to save life, no matter how much the surgeon may regret the work.

Osteoplastic surgery has traveled slowly, but it has gone steadily forward from the sponge grafts of Hamilton; the aseptic blood-clot of Schede; and the decalcified bone chips of Senn in their attempts to repair defects in bone, especially the cavities of long bones, till it has reached its greatest triumph in arthroplasty, and the transplanting of bone from some of the lower animals to man.

But it is of injuries in long bones and particularly those due to osteomyelitis or trauma that I care to speak to-day. Possibly no one cause has wrought such havoc among children as has osteomyelitis. One has to see to realize how rapidly the work of destruction can go on. A great step forward was taken when the regenerative power of the periosteum was discovered in this connection and yet the very nature of the disease, its destructiveness, and the extreme sepsis that accompanies it make this operation difficult, and often bring failure where success had been expected.

Dr. Thomas W. Huntington of San Francisco, professor of surgery in the University of California, in looking around for some chance to save the leg of a 7-year-old boy on whom he had operated for osteomyelitis by enucleating the bone, but met with disappointment because of the failure of the bone to regenerate, hit on the novel and ingenious plan of substituting the fibula for the tibia.

There was a gap of about 6 inches in which there was no attempt at regeneration. His reasoning was that the fibula would carry with it a good blood-supply, if the central portion of the bone was taken; added to this, the supply it would soon get from the tibia would insure its viability; that the fibula under new conditions, with an increased amount of work to do like organs elsewhere, would hypertrophy to a sufficient extent to take on the duties of the tibia; that the lower portion being undisturbed, the function of the ankle would not be lost.

On Jan. 21, 1903, by an incision exposing tibia and fibula in upper third, the fibula was divided about half an inch above the lower end of the

Showing union between tibia and fibula; also between ends of tibia. Taken twelve weeks after operation.

upper fragment of the tibia, adjoining surfaces of tibia and fibula were denuded of periosteum and a groove cut in lower end and outer surface of tibia, into which fibula was fitted. The everted periosteum of tibia and fibula were sewed together to keep fibula in place. The entire limb was immobilized; union was very slow. Solidifi-

cation was noted six months later. On use, foot became everted.

Second operation was performed on Oct. 6, 1903, and lower end of fibula was inserted into upper end of lower fragment of tibia. On Feb. 15, 1904, bony union was perfect. Limb three-fourths inch short, contour similar to normal limb, except for lateral deformity caused by walking before lower end was transferred.

Drs. James S. Stone and Ernest A. Codman of Boston have each reported a case of substituting the fibula for the tibia with good success in each case. Each case followed unsuccessful attempts to cure in subperiosteal enucleation. Stone's case differed in some particulars from that of Huntington. He notes some shortening of limb, foot also smaller than its mate, though fibula was increased some in thickness, before operation. First step in operation was performed August, 1905, i. e., the fibula was severed at upper part and attached to tibia. Eleven weeks later fairly firm union was found to have taken place.

In January, 1906, patient was readmitted to hospital and firm union was found; fibula markedly increased in size. Five and one-half months after first operation, second was performed. This part of the operation differs in technic from Huntington's. By an incision over the lower end of the fibial region and from it also reaching the fibula, after carefully dividing the periosteum over lower end of fibula, the fibula was carefully split for a distance of about 2 inches. Then an attempt was made to bring the inner part across to attach to the epiphysis of the tibia, the remaining part to remain as the external malleolus; unfortunately the outer fragment was severed from the remainder of the bone except as held by the periosteum, but despite this accident firm bony union took place, both between the tibia and fibula and the fragments of the fibula. This union was firm at the end of three months and the boy used his leg after four months.

Codman's patient was 32 years old. After repeated attempts by subperiosteal enucleation which resulted in failure, he applied at the hospital for amputation, as relief from persistent sinuses and a useless limb. The patient was operated on Oct. 26, 1905, along the line suggested by Huntington. The upper end was transferred in manner very similar to the other cases reported. The lower fragment of the tibia had become united to the fibula by callus, so eversion, as resulted in the other cases, was avoided. The tibial region had become so badly ulcerated that the scar tissue had to be dissected away and a healthy flap taken from an adjacent part of the leg to cover this area. The healing was perfect despite the unfavorable conditions, and the patient was able to leave the hospital in five weeks. Though the fibula increased in size very slowly (possibly delayed in part by the age of the patient) the functional value of the leg was practically perfect in less than a year from date of operation, and by the end of three years the fibula was practically the size of the original tibia.

It is needless to add that in each case as little injury as possible was done to the muscular and other tissues and the limbs were immobilized and later supported until not only firm union had taken place but till the bones had become strong enough to bear the weight of the body.

My own case differs from the others in that the cause of the trouble was a gunshot wound instead of osteomyelitis. On Christmas day, 1908, Dr. L. H. Ratliff, Lawrence, Ind., called me to see the case with him at the Deaconess Hospital and together to determine what should be done in way of treatment, expressing a fear that amputation would be necessary.

The boy, 13 years of age, had gone hunting with a companion a year or two older. By an accidental discharge of the gun in the hands of the other boy our patient was shot in the right leg, middle third, carrying away part of the tibia and fracturing the fibula, completely destroying the anterior tibial group of muscles in the middle third of the leg. Before the boy was taken to the surgery, his father exacted a promise from Dr. Ratliff and myself that we would not amputate the leg. When we had examined conditions under ether we sent for the father to show him how absolutely useless was any attempt to save the limb, but he had left the hospital, and so left us with nothing to do but to try to make the boy as comfortable as possible till permission could be obtained to complete the work. A posterior splint, well padded, was applied with plaster-of-Paris encasing the foot and the thigh. The father persisted in his refusal to allow the foot to be amputated. So hoping against hope that some of the fragment of bone left shattered in the wound would unite and help to fill in the space between the two ends of the bone, we allowed some shortening to take place, hoping to increase the chances by lessening the gap. The *x*-ray photograph taken at a later date shows better than words the condition of the bones at that time. The infection that followed made impossible the saving of these fragments, and for a while threatened the life of the patient. When it became evident that union was not going to take place voluntarily, we began to look about for some means of relief and finally decided to try Hunt-

ington's suggestion, in a somewhat modified form. After taking an *x*-ray photograph to find as near as possible just what attempt Nature had made to effect a cure, we again took the boy to the hospital and operated Aug. 1, 1909, seven months after the original injury. Our purpose in waiting had been twofold: first, to see how much Nature would do, and second, to get rid as near as possible of the old infection.

An incision was made about 6 inches in length midway between tibia and fibula in lower part of the upper third and the upper part of the middle third of the leg. The muscles carefully dissected out of the way, and the fibula cut about 2 inches below its articulation with the tibia. The adjacent borders of the two bones were denuded of periosteum and fastened with nails which were removed ten days later. The tibia and fibula had become united by callus below the seat of the fracture so required no care, as the photograph shows; except for a pointed projection, there was a space of at least 1½ inches between the bones. One fragment of dead bone in part filling this space was removed and the cavity curetted and cleansed as well as possible. Considerable infection followed with breaking down of scar tissues, despite this in four week time the union was fairly firm, at which time the patient left the hospital with the leg encased in plaster from toes to above the knee with Fenestra for dressing wound. Dr. Ratliff removed the cast three weeks later and reported the union firm. There are still two or three open sinuses from which there is slight discharge. The patient walked on foot about seven months after operation, though as far as strength of bone was concerned, might have done so much earlier. The limb is about 1¼ inches short, due in part to shortening allowed to bring ends of bone nearer together, and in part, I think, to imperfect growth since accident, as the left foot is about ¾ inch shorter than right. Shortening does not seem to have increased since operation.

The last *x*-ray photograph reveals some interesting facts. The coaptation between tibia and fibula did not remain as close as I had hopes, but a generous callus made the union firm. To my surprise the gap between the ends of the tibia is completely filled with new bone, which raises the question, "How long a space between bones can Nature fill even where the periosteum is destroyed, as it must have been in this case?" While a brave attempt was made in bone formation, as shown by the callus, practically no success was gained in seven months in filling the space between the ends of the bones, yet in three months after the fibula was brought alongside of the gap in the tibia, and thus affording protection for the reparative material, we find the work successfully completed.

It naturally raises the question as to the possibilities of bone repair, if we afford by artificial means the same protection and help we do by absorbable tubes and catgut strands in severed nerves.

I believe that Dr. Huntington and those who have followed him in reporting cases of this character have given us a means of saving quite a number of limbs where the bones have suffered injury from trauma or disease.

THERAPEUTIC NOTES

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Potency of Digitalis.—It is unfortunate that no chemical method has as yet been discovered by which the potency of digitalis preparations may be determined. The present chemical method of assaying the drug depends on the quantitative determination of the digitoxin content, the most active principle. However, other principles present (digitalin and digitalein) also exert a digitalis action on the heart and their presence cannot be ignored in an assay to determine the efficiency of the drug. Furthermore, it is difficult to estimate even the digitoxin. Barger and Shaw were able to recover only 25 per cent. of the digitoxin they added to an artificial tincture.

The physiologic methods of determining the potency of digitalis are open to the objections that the results obtained are the results of the combined actions of the various principles, that animals react differently than man, that no one physiologic method has been generally accepted. However, in the main the results obtained by physiologic assays agree and the weight of evidence seems to be in favor of it being the best method.

Worth Hale's[1] investigations as to the variability of crude digitalis, the two official preparations, tincture and fluid extract, and various nonofficial preparations are of great value. Among the interesting facts established concerning the crude drug are two which overthrow in a measure an old belief, namely that wild digitalis leaves of second year's growth are most active. Three lots of American garden-grown first-year leaves assayed higher than selected English leaves of

1. Bull. 74, U. S. P. H. and M.-H. S.

second year's growth and as further proof of high potency of these first-year leaves only one commercial preparation showed as high potency as these.

The most striking and important thing brought out by Hale's investigation is the great variability of the different manufactured products including the fluid extract, tincture, tablet triturates, and hypodermic tablets. These results indicate above all the necessity for the manufacturers to physiologically standardize their preparations and the dating of such preparations and recalling them from the market after a certain time. Two of the newer and widely advertised digitalis preparations were also examined. One proved to be not uniformly stable while the other was stable. However, of this last he says "On general grounds it may be said that its use rather than a physiologically standardized official preparation seems to offer no special advantages and, except in those cases in which secondary toxic effects are produced by them, that the official preparations would be equally efficient and are about 1,500 per cent. cheaper. Whether it also produces secondary toxic effects as often as the official galenicals do is a matter which must be left to the clinician."

Idiosyncrasy to Synthetics.—From time to time reports appear showing the existence of an idiosyncrasy toward certain synthetics. Two instances have recently occurred, one in America and the other in England, where aspirin produced an edematous swelling of the lips, tongue and face which, although permanent harm did not result, must have given the patients a very severe fright. In one of these reports the author surmises that had a larger dose been given, fatal edema of the glottis might have occurred. When one considers the enormous extent to which aspirin is used, it must be admitted that such cases are extremely rare and point to an idiosyncrasy on the part of the patient rather than to any danger in the drug itself. Still, the fact must be borne in mind that such idiosyncrasy *does* exist — for in neither of these cases is there any doubt as to the genuineness of the aspirin used—and in prescribing such drugs for the first time it is well to adjust the dose with caution until it has been ascertained that the patient is not unduly susceptible.

There is another factor in connection with the administration of aspirin, or of any other form of acetyl-salicylic acid, which must not be overlooked — the tendency of the drug to decomposition on keeping. The presence of a small proportion of free salicylic acid will in some cases produce such untoward effects as to bring the drug into unmerited disfavor. This has been insisted on repeatedly in our "Prescribing Notes," but it cannot be repeated too often. The ferric chlorid test will readily detect free salicylic acid, but the nose is usually sufficient for roughly testing a sample. Decomposition means free acetic acid also, and this can readily be detected by smell. Any sample smelling of acetic acid should be rejected.—*The Prescriber,* March, 1911.

The Treatment of Graves' Disease.—Bristow, in the *Long Island Medical Journal* for February, says that there are two drugs which should never be administered to patients suffering from Graves' disease. One of these is thyroid extract and the other is iodin. As the general consensus of opinion is that the symptoms of the disease are due to excessive secretion of the thyroid gland, it is evident that nothing can be more unphilosophical and unreasonable than to increase the amount of thyroid secretion already in the system by giving more. Aside from purely theoretical considerations, moreover, experience has shown that when thyroid extract has been administered the patients are uniformly made worse. Iodin has been given these patients because its use has been followed by good results when administered in the parenchymatous goiters. In this class of cases, however, we are dealing with a very different problem to that which presents itself in the gland which is the subject of Graves' disease. In one case we have an increase in the colloid material of the gland; in fact the cell spaces are stuffed with colloid. In the thyroid, which is the subject of Graves' disease, it is the epithelial elements of the gland which are in excess. Colloid seems to hold the thyroid secretion back from the circulation, while the abnormal increase in the epithelial elements causes it to pour into the lymphatics and bloodstream. While, therefore, iodin has been useful in the parenchymatous goiters, it always does harm when given to a patient with Graves' disease.

The medical treatment which offers most if not the sole hope of success consists in a diet free from protein elements and the maintenance of absolute rest. Freedom from anxiety, household worry and cares of all kinds is of the utmost importance. The patient should live in the open air, not be allowed to read, and will do better if put on an absolute milk diet. A form of specific treatment which is of value and deserves a trial is the cytolytic serum of Rogers and Beebe. This antithyroid serum is made by injecting rab-

bits or sheep with the combined proteids obtained from fresh human thyroids at intervals of from five to seven days for several weeks. The blood of the animal thus immunized to the thyroid proteids is then drawn from the carotid and the serum separated and tested for dosage. It is then put up in sealed glass tubes in doses of from 0.5 c.c. to 2 c.c. The latest statistics of Rogers and Beebe bearing on the efficacy of their antithyroid serum are as follows: 15 per cent. cured of all traces of the disease; 10 per cent. no subjective symptoms but retaining signs of goiter; 50 per cent. improved; 17 per cent. not improved and 8 per cent. died.

Cases not benefited by medical treatment should be given the benefit of surgical treatment in view of known facts and the relief afforded by the removal of the affected thyroid which is undoubted. Physicians should refer their patients to the surgeon after six months' treatment has proved to be without improvement, or earlier if the patient is getting worse. The relief that surgery offers is indicated by the results obtained by numerous well-known surgeons. In a total of 514 patients operated on by Mayo, Klemm, Riedel, Kocher and Krecke, 72 per cent. were cured; 16 per cent. greatly improved; 3 per cent. not improved; mortality 4 per cent. Surgeons are quite willing to agree that no case should be submitted for operation without a fair trial of medical measures. At the same time they beg their colleagues not to turn over their cases to them as a last resort.

The law for the prevention of blindness due to ophthalmia neonatorum is the result of the work of the Committee on Preventable Blindness of the Indiana State Medical Association. The work of the Committee, however, is not completed, as an effort will be put forth to see that the law is properly enforced. The Committee requests that county medical societies discuss the subject and secure the cooperation of all physicians in their respective counties with a view to securing observance of the law. The public must be educated, and the best manner of doing this is through the daily press. Newspapers are perfectly willing to print articles concerning ophthalmia neonatorum, and medical societies should take advantage of this opportunity for educating the public concerning a disease that has annually produced a large number of blind people who become charges for the support of the state. The ophthalmia neonatorum law recently enacted by the Indiana legislature is as follows:

Whereas, About 30 percentum of all blindness is caused by the preventable disease known as ophthalmia neonatorum, and

Whereas, this disease may always be prevented and almost always cured in its incipiency, and its existence is generally due to ignorant and careless management, therefore—

Section 1. Be it enacted by the General Assembly of the State of Indiana, That whenever a child is born, the physician, midwife or any other person who is present and engaged as a professional attendant, shall report said birth on a blank supplied by the State Board of Health to the health officer having jurisdiction, within thirty-six hours after such birth occurs. Said birth certificate in addition to other data ordered by the State Board of Health shall have upon it this question — Were precautions taken against ophthalmia neonatorum? And it shall be a violation of this act for any physician or midwife in professional attendance at a birth, to fail to report the same as herein commanded or to omit answering said question—Were precautions taken against ophthalmia neonatorum? All bills or charges for professional services rendered at a birth shall be unlawful if report is not made as herein commanded.

Sec. 2. It shall be the duty of all physicians or midwives in professional attendance upon a birth to always carefully examine the eyes of the infant, and if there is the least reason for suspecting infection of one or both eyes then said physician or midwife in professional attendance shall apply such prophylactic treatment as may be recognized as efficient in medical science.

Sec. 3. Should one or both eyes of an infant become inflamed, swollen or reddened, or show any unnatural discharge or secretion at any time within two weeks after its birth, and no legally qualified physician is in attendance upon the infant at that time, it shall be the duty of its parents, or in their absence, whoever is caring for said infant to report the fact in writing within six hours after discovery, to the health officer having jurisdiction. Provided said report to said health officer need not be made from recognized hospitals.

Sec. 4. Upon receipt of a report as set forth in Section 3 of this act, health officers shall direct the parents or whoever has charge of such infant suffering from such inflammation, swelling, redness or unnatural secretion or discharge of the eyes, to immediately place it in charge of a legally qualified physician, or in charge of the city or township physician if unable to pay for medical service.

Sec. 5. Any violation of the provisions of this act shall be punished by a fine of not less than ten nor more than fifty dollars.

Sec. 6. All parts of laws in conflict with this act are repealed.

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EDITORIALS

THE LOS ANGELES SESSION

This year's session of the A. M. A. at Los Angeles promises to be the best attended of any Pacific Coast session. Already the demand for accommodations on special trains has been unprecedented, and the hotels at Los Angeles have been flooded with applications for rooms. The Committee on Arrangements announces that there will be room for all who attend, and a cordial reception will be accorded the visitors by the Los Angeles people who have an established reputation for lavish hospitality.

The date of the session has been selected with special reference to the wishes of a large number of physicians who desire to take their annual vacations at that time, and no pleasanter vacation can be had than a trip to California with its opportunity for rest and recreation and privilege of enjoying such a diversity of scenery. If the going trip is by the Santa Fé one has the opportunity of visiting the world famous Grand Canyon of the Arizona, and stopping at some of the noted places in the orange belt of southern California. From Los Angeles side trips may be made to Catalina Island, San Diego, Coronado Beach and many other resorts. On the way to San Francisco the Yosemite Valley can be visited without the tedious stage coach trip which formerly was necessary. Those who saw San Francisco before its destruction a few years ago will be astonished to see the rebuilt city in all its modern magnificence. For those who may desire a more extensive trip, the opportunity offers for an ocean voyage to the Hawaiian Islands or to Alaska. If the trip to Alaska is taken an opportunity is offered to visit Portland, Seattle, Tacoma and Vancouver as well as the newer but interesting cities of Alaska.

The return trip east may be made over the Canadian Pacific, which is recognized as one of the scenic transcontinental roads, and one will long remember stops at Banff, Field, Glacier and other points in the Canadian Rockies. If the return trip is not to be made by one of the northern routes (which costs but an additional $15 in railroad fare) one will naturally choose the route via Ogden, Salt Lake City and Denver to Chicago. From Salt Lake City it is convenient to make the side trip to the Yellowstone Park, and a noted traveler has wisely said that no American should miss seeing the Yellowstone which is the most wonderful scenic place in the world. From Salt Lake City to Denver the traveler has the opportunity of seeing the famed Colorado scenery, and one is well repaid by a stop at Glenwood Springs, Colorado Springs and numerous other scenic points in the Rockies. At Colorado Springs one can take the Short Line to Cripple Creek and see mountain scenery and railroad engineering feats that are of interest to everyone, and the same may be said of the trip out of Denver via Moffat's road. Then there is Pike's Peak and the Garden of the Gods at Colorado Springs. No less interesting, but in a different way, is Denver, which is one of the beautiful as well as progressive cities of the United States. Last but not least, a trip to the Pacific Coast with all of its possibilities for enjoyment and rest will be particularly profitable because of the opportunity to attend an annual session of the A. M. A. and be entertained by the profession of Los Angeles.

There may be those who think they cannot afford the time and expense. As to time, it is possible for one to make a flying trip and be home in Indiana at the end of ten days after attending the entire session of the A. M. A., but such a hurried trip is not to be recommended. One ought to take more time and get some benefit from the advantages offered in the way of sight seeing. Four weeks will give one a splendid trip, if the Hawaiian Islands or Alaska are not included in the itinerary, and especially if one does not return by the Canadian Pacific, and elects to cut out the Yellowstone Park. But six weeks or two months is better, and in that time one can visit the more important scenic places, including the Yellowstone, and get something more out of it than a superficial glimpse here and there.

The expense of the trip may be comparatively small or great, depending on the tastes of the traveler. The round trip railroad fare from Chicago, including a day at the Grand Canyon, is $69. This includes return by any of the transcontinental lines from Los Angeles or San Francisco. If return is to be made by one of the northern lines out of Portland or Seattle (including the Canadian Pacific) an additional charge of $15 is made. Tickets are good for stopovers anywhere, and the return trip may be made as late as September 15. The Pullman rate from

Chicago to Los Angeles, including an extra day at the Grand Canyon, is $16 for a lower berth and $12.80 for an upper berth. Meals on the diner are à la carte for breakfast and luncheon, and at night a table d'hote dinner is served at one dollar. The rates at hotels and boarding houses all over the Pacific Coast are perhaps slightly higher than the rates for similar accommodations in the central states, but in no place is it necessary to suffer from extortion if the traveler desires to avoid it.

It is possible for one to take three weeks for the trip and have all expenses not exceed $200. This will include numerous short side trips, carriage drives and stops at noted scenic points in Colorado as well as California, but will not include a visit to Yellowstone Park, return by any of the northern routes, or quarters at the most expensive hotels. It does, however, include good accommodations everywhere, and while it does not permit foolish and unnecessary expenditures it does not require a squeezing of pennies in order to meet expenses required for comfort. For those who do not travel rapidly but take time to see and enjoy things as they go along, and are satisfied with comfortable though not extravagant accommodations, a trip of six or eight weeks may be made at a total expense not averaging over $10 per day per person, and this will include side trips, even the Yellowstone Park trip. A man and wife can make the trip for proportionately less. The expenses may be made even less than the figures given but that would probably mean considerable care in the expense of side trips, carriage rides, hotel bills, etc. But, however the trip is made, either economically or otherwise, it will prove an interesting one and well worth the time and expense. For the doctor it is a profitable and enjoyable vacation aside from the opportunity it gives of seeing some of the most interesting of America's scenery.

BREAST TUMORS

It is probable that the campaign for education of the lay mind regarding procrastination in the presence of malignancy has attained a higher development when the breast is the organ involved than is the case with any other part of the body. The chief reason for a readier response to an appeal for early treatment probably lies in the accessibility of the part. Could a woman palpate a lump in her uterus or her stomach every time she bathed, the chances are that she would not follow the path of expectancy that so often accompanies the metrorrhagias of the menopause until the uterus becomes fixed and the vaginal discharge so offensive as to be no longer endurable. Then too, so many symptoms and abnormalities have been thrown in the scrap-bag and fastened with the purse-string of "change of life" that a woman is led to ascribe thusly most any uterine change from which she may suffer at the age from 35 to 60 years. But be the cause for the early pilgrimage to the doctor what it may, in the case of breast tumor, the fact remains that malignant disease in this locality is being seen earlier in its probable development than in most other regions, and it is for this reason that we should endeavor to perfect ourselves to the highest possible degree in the differential diagnosis of breast lesions. That such differentiation is by no means always an easy matter, even for master clinicians in this line of work, is well set forth by Rodman's recent excellent article.[1]

Twenty years of experience have taught Rodman that the differential diagnosis between benign and malignant growths of the breast is by no means the simple problem that he once thought it. Likewise he has found by an analysis of 5,000 breast tumors that 19.2 per cent. were non-carcinomatous, 16.5 per cent. being benign and 2.7 per cent. sarcomatous, this in marked contrast to Gross's teaching that but 9.5 per cent. of all breast tumors were benign and 8.75 per cent. were sarcomatous.

The tendency of benign tumors of the breast to undergo malignant transformation is now so well recognized, and particularly that form known as papillary cystadenomas, that Rodman believes that many such tumors should be looked on as potentially malignant from the very beginning.

Because of its manifest tendency to result in carcinoma, much attention has latterly been given to the condition known by the various names of abnormal involution, fibrous and glandular hyperplasia with retention cysts, senile parenchymatous hypertrophy, or general cystic disease of the breast. Resulting or coincident carcinoma with this condition has been variously estimated at from 12 to 50 per cent. It usually occurs between the ages of 40 and 50, though often encountered much earlier and sometimes later; more commonly in maiden or sterile women or non-nursing mothers. Rodman believes that it affords more embarrassment to the diagnostician and to the surgeon than any other breast affection and often the microscope offers the only means of determining the true diagnosis.

1. Jour. Am. Med. Assn., March 18, 1911, pp. 793-799.

The gross pathology of abnormal involution is, in the early stage, that of hyperplasia. The affected breast is probably slightly larger than its fellow, firmer, but not uniform in its firmness. Cut section shows an increase in both the connective tissue and the parenchyma, with minute cysts scattered throughout, which later dilate and form the so-called cystic stage. The thickened areas are of what Frazier[2] describes as India-rubber consistency, not so hard and infiltrative as in scirrhus carcinoma. Indeed Bonney's investigations[3] would seem to indicate that traces of chronic mastitis could be found in all breasts removed for early carcinoma, thus signifying the malignant potentiality of this condition. The color is more pinkish in tinge than the gray tone usually seen in cancerous areas. The axillary lymph nodes may be enlarged in both conditions. Likewise retraction of the nipple, supposedly quite characteristic of cancer, may be present in cystic disease, and as a matter of fact this phenomenon will not obtain in carcinoma unless the lesion is situated behind or sufficiently near the nipple to pull on its trabeculæ. While a more or less blood-stained fluid is occasionally found discharging from the nipple of the abnormally-involuted breast, yet in the absence of a demonstrable intracystic papilloma, such a discharge is presumptive evidence of malignancy, the discharge of a benign growth being rather mucoid in character, as a rule.

Again the condition known as acute carcinoma, manifesting itself as a diffuse, hard, tender enlargement of the breast associated with a red and edematous overlying skin, so closely simulates the phenomena of inflammation, particularly when associated with pregnancy, as to have earned the title from Volkmann of carcinomatous mastitis.

All facts considered, Rodman is of the opinion that in the majority of instances cystic disease cannot be accurately diagnosticated clinically and the true nature of the growth will be revealed only on exploration and macroscopic inspection, or often only the frozen section can make the diagnosis absolutely positive.

In the clinical search for incipient cancer the entire breast must be examined and compared with its fellow. Atrophy of the superficial fascia over a mass, associated with local dimpling of the skin, renders the diagnosis of cancer reasonably certain, provided a previous mastitis has not existed. Pulling the breast forward with both hands or moving the breast freely will often aid in eliciting skin dimpling and retraction of the nipple, where otherwise it is not discoverable. Occasionally the nature of the growth will best be revealed by palpating with the flat hand, pressing the breast firmly against the thoracic wall. But even for the most skilled diagnostician the determination of the true nature of the lesion before operation is, according to Rodman, possible in but 75 per cent. of the cases.

An important point in regard to the frozen section made by the author is that the entire tumor should be given to the pathologist and not a section taken at random, because through such latter procedure the microscopist is asked to make a diagnosis on a single specimen which may very readily not contain typical areas — an obvious injustice both to the pathologist and his method of diagnosis, for which the surgeon alone is responsible. The same criticism holds true, by the way, for the practice of submitting but a small portion of the curettings from a uterus, for instance, to the pathologist, with the request for information concerning any trace of beginning malignancy. Both the patient and the microscopist are entitled to a study of the complete specimen removed, be it curettings or otherwise.

The unequivocal stand taken by the author is for an exploratory incision such as Warren's, for examination of the complete breast from below, cauterization and packing of the wound while awaiting the result of the examination of the frozen section, the subsequent course to be governed by the microscopist's report. And he very properly maintains that it is only by such prompt and radical measures that our present mortality rates in breast cancer will be improved. Diagnostic incision with an interval of days or weeks before operation based on a leisurely microscopic examination is justly condemned.

2. Progr. Med., March, 1911, p. 105.
3. Ibid.

EXAMINATION OF THE STOOLS IN INFANCY

Now that we have come to recognize the necessity of more urinary analyses in infants, we should not lose sight of the fund of information that is sometimes to be had from a careful examination of the stools. Not so many years since, we were wont to believe that a stool which showed a large number of curds was indicative of proteid indigestion, and we proceeded to lower the proteids accordingly and add more cream or rich top milk and water, without stopping to differentiate the form of curd. Latterly we have come to a realization of the fact that many of the small white or yellowish curds were in reality made up almost entirely of fats or, at least, only

a framework of proteid enmeshing a larger bulk of fat which has been either undigested or malassimilated. And it is from the knowledge thus latterly obtained that has sprung the rationale of the so-called "skimmed-milk" feeding in the intestinal disorders of infants.

Several excellent articles have rather recently appeared on the study of infants' stools, the most comprehensive of which is probably that of Morse.[1] A few points in regard to the stools of ordinary breast-fed infants are certainly worth keeping in mind. Such an infant has during the first few months of life three or four movements daily of pea-soup consistency, a peculiar golden-yellow in color, slightly sour and aromatic in odor and somewhat acid in reaction. Later the number diminishes and the consistency becomes more salve-like. But even when babies are doing well on the breast it is not uncommon for them to have a larger number of stools of a diminished consistency and of a brownish color. In such case the breast milk usually registers high in proteid. Numerous soft, fine curds, and sometimes mucus may occur in the stools of healthy breast-fed babies. Though such stools are abnormal too much importance should not be attached to them, provided the baby is gaining in weight and seems well. Indeed the breast-fed infant will sometimes go weeks or months without a normal stool and yet thrive perfectly, whereas such stools under cow's-milk feeding would be associated with distinct evidences of malnutrition. Hence abnormal stools are not an indication for weaning, provided the baby is doing well other ways.

Infants thriving on cow's milk have fewer and firmer stools than breast-fed babies. Slight constipation after the first few months is neither uncommon nor of pathologic significance. The color is a lighter yellow both on account of the increased proteid and the conversion of the bilirubin into hydrobilirubin. Cow's milk, whole or diluted so that the proteid is equal to or greater than the fat, yields a cheesy stool with a somewhat fecal odor, alkaline reaction and brownish color. Excess of fat produces an acid reaction, proteids alkaline, and decomposed carbohydrates acid stools which usually irritate the buttocks. The reaction is best tested by placing wet red or blue litmus on, not in, the stool.

Abnormalities in color are quite common but the color should not be judged from the outside, as drying and exposure to air may change the color very rapidly, especially from yellow to green. The darker the green the greater the significance, a very light grass green color in a stool of otherwise normal appearance being of no practical importance. A gray color is due to the diminution of bile, and the presence of some form of fat in the stool.

Undigested fats in the form of soaps give rise to white stools which may be soft, looking like curdled milk, or, more often, hard and dry, like the stools of a dog which has been eating bones. In the absence of blood, a black color in the stool is usually due to the action of bismuth or iron. A grain or two of sulphur may supply the absent sulphuretted hydrogen to the stool which is not blackened by bismuth, but is of doubtful advantage. Slaty-blue stools and a pink stain on the diaper surrounding the stool are probably due to some change in the bile pigment and are of no clinical significance.

The most common, and from a clinical standpoint perhaps the most interesting, abnormal constituents are curds. Of these there are two kinds, the one composed primarily of casein, the other mainly of fat, mostly in the form of fatty acids and soaps, the small amount of fat in casein curds, and *vice versa*, being merely incidents. The size of the casein curd varies from that of a bean to that of a pecan nut: it is usually white, sometimes yellow in color, is firm and tough, cannot be broken up by pressure, and sinks in water. It is insoluble in ether and in formalin becomes as hard as a rock. The fat curd varies in size from that of a pin-head to a pea, in color from white to yellow or green according to the color of the movement; is easily broken up by pressure, and when shaken up in water remains in suspension. After acidification it is soluble in ether, but remains unaffected by formalin.

In general, the stools of proteid indigestion are loose, brownish in color, alkaline in reaction, with a foul odor sometimes fecal and sometimes cheesy, occasionally a combination of the two. More mucus both macroscopically and microscopically is shown by the stools of proteid indigestion than of either pure fat or carbohydrate indigestion.

The presence of undigested fat shows itself by giving a gray or white color and a greasy, shiny appearance to the stools and when such stool is rubbed on a piece of smooth, soft paper, on drying there will be the appearance of oiled paper, especially when held to the light. Excess of neutral fat gives stools of a creamy consistency, while the soaps give one that is clay-like, or very dry and crumbly. The reaction is highly acid and the odor rancid, like that of butyric acid.

Mixed types of stools, modified by bacterial fermentation and decomposition are much com-

1. New Orleans Med. and Surg. Jour., August, 1910.

moner and more difficult of interpretation than the pure types alone.

A more accurate method of obtaining information concerning the digestion of fat is by the use of the microscope and the staining methods advocated by Talbot.[2] Two cover-glass preparations are used, one being stained with an alcoholic solution of Sudan III and the other with carbol-fuchsin, which stain the neutral fats, fatty acids and soaps differently. Under Sudan III neutral fats and fatty acids appear as drops staining red, while soaps are not stained, and with carbol-fuchsin neutral fats remain as oily, colorless drops, fatty acids stain a brilliant red and soaps a dull red, hence the carbol-fuchsin offers a method of differentiating the neutral fat drops from the fatty acid drops, that cannot be done by Sudan III. A drop of glacial acetic acid run under the Sudan III cover-glass and heated, turns the soaps and neutral fats into fatty acids which, while warm, appear as large red-stained drops, and on cooling crystallize. This method offers a ready and easy method of determining both total and individual amounts of fat.

The same author (Talbot) in another contribution[3] discusses the significance of curds in infant stools and formulates certain general principles concerning the same:

"If a baby shows signs of indigestion, does not gain in weight, and is passing stools which contain (tough) curds, casein is at fault and should be replaced by some other food. If another baby shows signs of indigestion, stops gaining weight, and passes stools containing many soft curds, fat is at fault and should be diminished. Whenever either of these food components is diminished, the other should be increased so that the caloric needs of the infant may be supplied." Tough curds may appear in the stools of infants gaining in weight and with no other symptom of indigestion, and the same may be said of fat curds, in which event it is not usually necessary to alter the composition of the food, but they should serve as warning notes that the physiologic limit of that particular element has been reached and such element should not be pushed further at that time.

EDITORIAL NOTES

Copies of the January, February or March numbers of The Journal will be mailed to any of our readers who desire such numbers to complete their files, if they will make their wishes known immediately.

Dr. August Knoefel, secretary of the Greene County Medical Society, in endeavors to stimulate interest in his society, sends out the following letter:

Dear Doctor:—Enclosed find program of *your* society. Do not fail to attend. If you miss, the other fellow may learn something that you do not know, and if you are afraid to leave the other fellow at home alone, why bring him along—we need him.

The Owen bill for the establishment of a national department of public health failed to receive consideration at the last session of congress, but Mr. Owen is authority for the statement that the bill or a modification of it will come before congress until some definite action is taken and the government takes as much interest in the health of the people as in the preservation of the lives and health of live stock.

The legislature has recently passed a bill creating a Board of Examiners for Veterinary Surgeons. This is a step in the right direction, for there is no reason why those who render services to the sick and suffering dumb brutes should not show some qualifications. The time is past when any good-for-nothing livery stable hand can hang out a shingle as a "hoss doctor" and receive the confidence of those who require the services of a skilful veterinarian.

The secretary of the Tennessee State Medical Association has taken an active interest in the proposed legislation pertaining to public health, and has sent to every doctor in Tennessee a form letter calling attention to the bills pending in the Tennessee legislature, and enclosing a summary of such bills. Each doctor is requested to personally see or write a letter to the representatives, both in the senate and house, from the county in which the doctor lives, with a request that the bills be favorably considered.

At rather regular intervals a pamphlet entitled "The Non-Surgical Treatment of Cataract" is sent to physicians by a St. Louis firm that is exploiting a number of proprietary remedies. The pamphlet advertises a preparation called succus cineraria maritima which is claimed to be "the only remedy for the relief of cataract and other opacities of vision." It may be of interest

2. Arch. Pediat., February, 1911.
3. Boston Med. and Surg. Jour., Feb. 3, 1910.

to our readers to know that a thorough test of the remedy by competent clinicians has conclusively shown that it is worthless for the purposes for which it is advertised.

For the benefit of those secretaries who are tardy in sending in society proceedings for publication, we desire to announce that our printers will accept no copy after the first of the month if such copy is to be used in the current number of The Journal. We aim to send most of the copy to the printers a few days before the first of the month, and will appreciate it if those who have society proceedings or other communications for publication will send the same to us as early as possible. If reports reach us after the first of the month, they must of necessity be carried over until the succeeding month.

The members of the medical profession who went to the recent session of the Indiana State Legislature with the avowed intention of running a knife through Dr. Hurty, of the State Board of Health, must now feel that not only was the effort fruitless, but the purpose decidedly unpopular, not only with the rank and file of the medical profession but the general public as well. It does not pay to carry a personal grievance to too great length, and particularly when the satisfaction of that grievance would mean great loss to a large number of people and end in the unpopularity of the one having the grievance.

In preparing the program for this year's session of the Indiana State Medical Association the scientific committee should give some attention to the suggestion from the Council that papers accepted for the program shall be such papers and such papers only as are worthy of the consideration of a society of the standing and importance of the Association. It does not help the reputation of the Association, and it certainly imposes on the good nature and confidence of the members, to have on the programs of our annual sessions contributions that are either very poor in quality or compilations which should find no place on a program supposedly made up of original articles.

Logansport is afflicted with some quack doctors known as the United Doctors, who are particularly offensive in their manner of advertising. As a sample of some of the endorsements published in connection with the advertisements, the following is certainly a gem: "For weeks at a time I was unable to leave my house. These hot flashes added greatly to my misery, and at times the heat from my head *would burn and scorch the combs in my hair.* These hot flashes continued a long time. My heart would palpitate and at times almost choke me."

It is regretted that the newspapers of Logansport, as well as other towns and cities over the country do not drop their commercial instinct sufficiently to bar from their columns advertising which they must know is fraudulent in character and intended to deceive the credulous. It is also unfortunate that there is no law which will punish the advertising quacks who prey on the sick and suffering.

As an excuse for failure to perform official duties, a few secretaries of county medical societies are claiming that their reports sent us for publication are not published. For the benefit of some who otherwise might be led to believe such statements, we desire to say that no official report of any recent society meeting received by us has failed to appear either in its entirety or in abstract in The Journal. We reserve the right to condense long reports and to cut out superfluous matter from others, but in no instance have we deprived any county or district medical society in Indiana of representation in The Journal. It would be manifestly absurd for us to put forth every effort to secure society reports and then fail to use the reports after obtaining them. We have asked, and now ask, that secretaries send us reports regularly and promptly, and we shall continue in the future, as we have in the past, to publish in full or in abstract every society report sent in.

Columbia University has established a course of optometry in direct opposition to the advice and wishes of its friends in the medical profession. The action was condemned by numerous medical journals, and several medical societies have passed resolutions in which the action of the university has been deplored. Recently the American Medical Association, through the Seventh Annual Conference on Medical Education, has put its seal of disapproval on the act of Columbia University in the following resolution:

Resolved, That the Seventh Annual Conference of the American Medical Association on Medical Education and Medical Legislation deplores the action of Columbia University of New York in establishing a course of study in optometry, for the reason that opticians have never succeeded in founding an official school of optics or optometry, but have relied on the recognition or legalization of the word *optometry* to make them a profession, and for the further reason that the exis-

tence of such course at Columbia University has this year been used in many states as the chief argument for the further enactment of optometry laws which are designed to permit opticians to practice medicine in a limited degree. And, be it further

Resolved, That a copy of these resolutions be transmitted by the secretary of this Conference to the president of Columbia University of New York.

Alumni reunions, as a feature of sessions of medical societies, are deserving of some consideration at the hands of committees on arrangement. There can be no doubt that the alumni reunion proposition is being overworked and generally in the interest of institutions that are clamoring for more students. Not infrequently the institutions themselves are responsible for the reunions and some professor or officer is sent out to shout the praises of the alma mater and bid for alumni influence in securing new students, and incidentally endowments of one kind or another. But aside from all this, alumni reunions occurring during the sessions of medical meetings interfere with the general working of medical societies, and for that reason they should be discouraged by committees on arrangements. It is certainly discouraging to a committee on arrangements to have a third or a half of the members of a medical society absent from regular meetings, or even entertainments planned for them, because alumni dinners or reunions offer greater attractions. We therefore desire to recommend that if alumni dinners or meetings are to be a part of the program prepared for visitors at the next session of the Indiana State Medical Association, such dinners or entertainments should be given at a time when they will not conflict with anything planned by the committee on arrangements.

The Los Angeles County Medical Society has dues of $10 per year. When we consider some of the complaints made concerning $2 county society dues in many county societies in Indiana, we are tempted to believe that the medical men of California are made of different kind of clay than the medical men in Indiana. This also reminds us of the statement made by Dr. McCormack when he was doing reorganization work in Indiana. He said that the medical men who most need the benefits of medical societies are the ones who are least likely to attend a medical society, and the biggest kickers when it comes to paying the dues of a medical society.

We congratulate the medical men in a large number of states on having a progressive profession, if the question of the payment of dues and maintenance of medical societies is a criterion. However, Indiana is not so slow, for a majority of the medical men of this state have been wide awake and progressive to an unusual degree, though they have really been spoiled by receiving so much benefit for so little expenditure of money. When nearly all of the state medical societies were charging from $2 to $5 as dues, the Indiana State Medical Association was thriving on dues of but $1, though it is acknowledged by those who are familiar with the work of some other state medical societies that Indiana could have done more if the dues had been more liberal.

The Postum Cereal Company, of Battle Creek, received a rather severe jolt when *Collier's Weekly* obtained a judgment of $50,000 against it for libelous retaliation in connection with *Collier's* exposure of the deception and misrepresentation practiced in advertising Grape Nuts and Postum Cereal. An unusual effort is now being put forth to offset the effect of the damaging evidence published by *Collier's*, and judging from the increased advertising of the Postum Cereal Company, it is safe to say that newspapers and periodicals which carry the Grape Nuts and Postum advertisements are profiting handsomely in consequence. Recently renewed efforts have been put forth to secure the confidence and good-will of the medical profession, and any physician who has not received from the Postum Cereal Company a leather-bound case book, with the name of the recipient engraved in gold letters on the cover, should consider that he has been slighted. However, it is not probable that any physician whose name appears in any recent medical directory has been slighted, for it is not the policy of Mr. Post to do things other than in the most liberal manner. Anyone who is so lavish in statements concerning the beneficial and curative effects of the postum products in diseased conditions can be depended on to be generous in other ways, and particularly when generosity is an advertising asset. That advertising pays is evidenced by the fact that Mr. Post has made millions out of his products, but like *Collier's*, we question the honesty of anyone who furthers his interests by deception, and profits by the credulity of the public. Grape Nuts and Postum Cereal may be and probably are simple and wholesome food products, but that does not warrant exploiting them as remedies for diseased conditions, and by so doing lead some misguided sufferers to delay securing that relief which might come from more rational attention.

The conscience of a medical man has fallen to a low state when he can see nothing wrong in the division of fees as ordinarily practiced. The fact that the arrangement is a secret one and unbeknown to the patient is sufficient to condemn it, and the ridiculous plea of some surgeons or specialists who say that they are paying for assistance rendered at the time of operation by the general practitioner who refers the case, is a gauzy excuse for carrying on a practice which is purely a commercial proposition and demoralizing in every way. If the general practitioner really renders any assistance, which is seldom the case, for he is not trained for the work, why should not he present his bill to the patient in the usual way? Why should the general practitioner expect someone else to collect his fees for him, and why should the surgeon yield to the request to collect the fee?

The fact of the matter is, the whole subject of division of fees is rotten from beginning to end, and it is founded on commercialism of the sort that is condemned by every right thinking medical man. It leads to a traffic in the lives and health of people which is practiced without regard to the necessities of the people or the ability of medical men to properly care for those requiring surgical service. In those communities where division of fees is practiced it has been clearly established that there is a tendency to send patients to the surgeons paying the largest commission, irrespective of qualifications of the surgeon. How long the public will stand for this sort of traffic remains to be seen, but we are convinced that the public will know the facts eventually, and in consequence the medical profession will thus come to a day of reckoning. It is unfortunate that medical men have to be forced by public opinion to be fair and honest, but if the medical conscience is becoming warped in consequence of the ease with which fees are made by dealing unfairly with the public, there is no reason why the kinks in the distorted medical conscience should not be taken out by some good sound raps by those who are the real sufferers.

To the Members of the Indiana State Medical Association.—By direction of the Committee on Scientific Work (Drs. David Ross and J. H. McDonald, of Indianapolis, and C. N. Combs, of Terre Haute), the following announcement is made concerning the program for the Indianapolis session. This year it will not be necessary for papers to be read before the county or district societies before being referred for presentation before the state association, as any paper of merit from any member will be accepted. To secure a place on the program it will be absolutely necessary for the original paper to be in the hands of the scientific committee not later than July 1, for the following reasons: First, it will be the aim of the committee to be something more than a figure-head, and it will attempt to exercise some intelligent supervision over the quality and quantity of the papers accepted; to give the committee time to read over all the papers carefully, prior to an early announcement in The Journal, necessitates the time limit being July 1. Second, if all the papers are received early it will enable the committee to group a few of them in symposia. It is the opinion of the committee that one symposium in a half day, analyzing every phase of a given subject, makes a more interesting program than five papers on as many diversified subjects. We aim, however, only to reflect the consensus of opinion of the members, and solicit the views of any member concerning the arrangement of the program.

Your attention is called to the By-Laws, Chapter X, Section 1, "No address or paper before the Association shall occupy more than twenty minutes in its delivery, and no member shall speak longer than five minutes, nor more than once on one subject except by unanimous consent, except the discussant who shall be allowed ten minutes."

Members submitting papers are invited to designate their choice for leaders in the discussion. These rules will be enforced strictly and impartially, and members should be governed accordingly. Chas. N. Combs, Secretary.

CORRESPONDENCE

TO A SKELETON

Tipton, Ind., March 21, 1911.

To the Editor:—I enclose a poem taken from my scrap book. I thought that the same might be interesting to the readers of The Journal. Beside a skeleton in the Royal College, London, these beautiful lines were found many years ago. They were published in the *London Morning Chronicle* in 1827, and every effort was made to discover the author. Though a reward of nearly $300 was offered, the authorship remained secret for nearly sixty years, when it was learned that the lines were by Robert Philip, of Gormyre Cottage, Scotland. Toward the end of the year 1826 he wrote the verses while watching for "body snatchers" in the parish churchyard of Torphichen where, during the repairing of the church,

the unearthing of a skeleton suggested the subject. The verses were shown to Dr. John Alford, who procured a copy and either by accident or intention, dropped a copy in the Royal College of Surgeons, where they were found.

Behold this ruin! 'Twas a skull
Once of ethereal spirit full;
This narrow cell was life's retreat,
This space was thought's mysterious seat.
What beauteous visions filled this spot!
What dreams of pleasure long forgot!
Nor love, nor joy, nor hope, nor fear
Have left one trace of record here.

Beneath this moldering canopy,
Once shown the bright and busy eye,
But start not at the dismal void!
If social love that eye employed,
And within no lawless fire it gleamed,
But through the dews of kindness beamed,
That eye shall be forever bright,
When stars and sun are sunk in night.

Within this hollow cavern hung
The ready, swift and tuneful tongue,
If falsehood's honey it disdained,
And where it could not praise was chained,
If bold in virtue's cause it spoke,
Yet gentle concord never broke,
That silent tongue shall plead for thee
When time unveils eternity.

Say, did these fingers delve the mine,
Or with its envied rubies shine?
To hew the rock or wear the gem
Can little now avail to them;
But if the page of truth they sought,
Or comfort to the mourner brought,
These hands a richer meed shall claim
Than all that wait on wealth or fame.

Avails it whether bare or shod
These feet the paths of duty trod?
If from the bowers of ease they fled
To seek affliction's humble shed;
If grandeur's guilty bribe they spurned
And home to virtue's cot returned,
These feet with angel's wings shall vie
And tread the palace of the sky.

Very truly yours,
W. L. Louder.

DEATHS

Mrs. J. A. Axline, aged 58, wife of Dr. Axline of Noblesville, died March 10 of organic heart trouble. She was prominent in charitable work.

Dr. William Warren Potter, editor of the Buffalo *Medical Journal*, died at Buffalo, N. Y., Tuesday, March 14, 1911, after an illness of a few weeks, aged 72 years.

Dr. William W. Mayo, father of Drs. William J. and Charles H. Mayo, died at his home in Rochester, Minn, March 6. He was 92 years of age, having been born in 1819.

In trying to signal an interurban car, Harry H. McCoy, son of Dr. Teo. T. McCoy of Columbus, a student at the Indiana University School of Medicine, was instantly killed March 24.

NEWS, NOTES AND COMMENTS

Dr. Joseph L. Allen, formerly of Charlottesville, has recently moved to Greenfield.

Dr. F. W. Foxworthy, 316 Board of Trade Building, Indianapolis, is recovering from an illness.

Dr. Alfred Kane, of Fort Wayne, announces the removal of his office to 235 West Wayne Street.

Dr. C. A. Daugherty of South Bend has recently returned from Mexico where he has been a guest at the ranch of Dr. Ochsner, of Chicago.

Dr. Orville E. Spurgeon, of Muncie, and Miss Ella Maria Worley, of Washington Court House, Ohio, were married at Muncie, Jan. 18, 1911.

Dr. Frederick W. Meyer and bride, of Indianapolis, have returned from their wedding journey and are at home at 2202 Brookside Avenue, Indianapolis.

Dr. R. H. Ritter of Indianapolis, represented Indiana at a special conference of the American Medical Association on Medical Education and Legislation held in Chicago early in March.

Dr. J. W. Milligan, formerly physician to the Indiana State Prison, has been appointed deputy warden, and Dr. Whitefield Bowers is acting prison physician until a permanent appointment is made.

Dr. L. P. Drayer of Fort Wayne gave a testimonial dinner on March 2 to Dr. M. F. Porter, which was attended by a number of the representative physicians of the city. Dr. Alois B. Graham of Indianapolis was also a guest.

The Fort Wayne Medical Society has engaged two special Pullmans on the Santa Fe Road for the trip to Los Angeles to attend the annual session of the A. M. A.. The party will spend one day at the Grand Cañon. Dr. W. D. Calvin of Fort Wayne is chairman of the committee having charge of the arrangements for the society.

Sunday, April 30, will be observed as "Tuberculosis Sunday" by churches of the state. The State Board of Health will ask the clergy to preach on the prevention of tuberculosis. Dr. J. N. Hurty, secretary of the board, is preparing data which will be mailed to every pastor in the state with a request that it be used in a sermon on that day.

Two bills directed against animal experimentation have been introduced into the Pennsylvania legislature. One is intended to prohibit experiments on living animals except for purposes of healing or curing under penalty of a fine of from $100 to $500, or imprisonment of from three months to one year. The other bill contemplates prohibiting the administration of curare to animals. Still another bill prohibits the purchase of animals or fowls from minors or persons having no known trade.

The Thirteenth District Medical Society will meet at the Century Club, Elkhart, on Tuesday, April 18. There will be a scientific meeting in the afternoon followed by a banquet in the evening. These meetings are increasing in interest and popularity. The one at Goshen a year ago was the best and largest up to that time; but the one at Rochester six months later was larger and better still, and it is expected that Elkhart will be even better, as there is good feeling and a "get together" sentiment throughout the District.

The editor of The Journal, who is chairman of the Section on Ophthalmology of the A. M. A., is making up a special party of ophthalmologists to occupy two Pullmans in going from Chicago to Los Angeles to attend this year's session of the A. M. A. Reservations have been made by many prominent ophthalmologists in the eastern and central states, and there is room for a few more in order to complete the party. A full day's stop will be made at the Grand Cañon of Arizona. Those desiring particulars may address Dr. Albert E. Bulson, Jr., Fort Wayne.

The New York *Medical Record* is authority for the statement that one of the features to be offered by the new McAlpin Hotel, now in course of construction on the southwest corner of Thirty-Fourth Street and Broadway, New York City, will be a fully equipped miniature hospital where cases no matter how serious can be treated with the same care as in the best up-to-date private sanitarium. It is to be arranged so as to be able to accommodate comfortably twelve patients at one time. Surgeons, physicians and trained nurses will be in attendance constantly. This hospital will be on the twenty-third floor of the hotel.

An anniversary dinner was given by the doctors of Boone County, March 8, to Dr. Carter H. Smith of Lebanon, in honor of his fifty years' practice of medicine.

Dr. Smith was born in Butler County, Ohio, July 30, 1835, and when four and a half years old he moved with his father from Ohio to Marion County. In 1855 he came to Clinton County, near Colfax. He studied medicine until 1862 with Dr. George W. Duzan of Old Augusta and also at home while attending school at the Thorntown academy. In 1862 he moved to Kirklin, practicing there for fourteen years, except for the time he was at Rush Medical College of Chicago, from which he graduated in 1873. In 1875 he came to Lebanon, practicing here up to the present time. Dr. Smith is now 75 years old.

Dr W. B. Graham of Noblesville is the oldest practicing physician in Hamilton County, and the county medical society at its annual banquet held March 14, complimented him on his long service to the community. He has practiced medicine more than fifty years.

Dr. Graham was born in Butler County, Pa., coming to Indiana in 1856, and locating at Broad Ripple. During his residence there he attended the medical school at Ann Arbor, Mich., and in the winter of 1860 and 1861 graduated from Rush Medical College, at Chicago. Following graduation he moved to Clarksville, and a few months later to Noblesville.

The program was as follows: "The Older Physicians," G. W. H. Kemper; "Dr. Graham as a Soldier Surgeon," A. R. Tucker; "Dr. Graham as a Physician," K. C. Hershey; "Dr. Graham as a Citizen," Judge Meade Vestal; "Dr. Graham as a Friend of the Young Physician," H. H. Thompson; "Dr. Graham's Moral Force in the Community," L. A. Beeks; Response, Dr. W. B.

Graham. Dr. C. H. Tomlinson of Cicero presented Dr. Graham a gold headed cane on behalf of the society.

Eli Lilly & Co., the well-known pharmaceutical chemists, of Indianapolis, have recently erected a new building for the extension of their scientific departments which have made such rapid growth within the last few years that the need of larger quarters became imperative. The building consists of three stories and a basement, built of red pressed brick with white terra cotta trimmings, the inside walls being of concrete, rendering the building fireproof. The basement will be used as a store room, the first floor as a lecture room, capable of seating 200 comfortably and equipped with compressed air, water, steam, gas and electricity for use in demonstrations. This lecture room is also equipped with stereopticon and projection apparatus. On the same floor is the library, which will contain several thousand volumes of scientific and technical works. The second floor is occupied entirely by chemical laboratories for research and routine work. The third floor accommodates several departments, including the botanical laboratory, the bacteriological laboratory, the departments of pharmacology and experimental medicine, dark rooms, etc. On June 1 the building will be thrown open to visitors, and pharmacists and physicians are particularly welcomed.

SOCIETY PROCEEDINGS

INDIANA STATE MEDICAL ASSOCIATION

The following is a list of those who have paid Association dues between the dates March 1 and April 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the March number includes all those who paid dues to March 1, or up to 2002, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the March and April numbers constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address	County Society
2003	G. W. Pirtle, Carlisle	Greene
2004	E. M. Deputy, Dugger	Greene
2005	C. M. Lowder, Dugger	Greene
2006	S. E. Mentzer, Monroeville	Allen
2007	J. D. Morgan, Dixon	Allen
2008	S. T. Henderson, Fort Wayne	Allen
2009	J. B. McEvoy, Fort Wayne	Allen
2010	T. L. Lockhart, Owensville	Gibson
2011	A. R. Burton, Princeton	Gibson
2012	R. A. Cushman, Princeton	Gibson
2013	W. C. Squire, Princeton	Gibson
2014	A. P. Brown, Princeton	Gibson
2015	J. M. Fouts, Centerville	Wayne
2016	C. L. Blue, Tocsin	Wells
2017	G. W. Farver, Seymour	Jackson
2018	C. A. Hunter, Seymour R. F. D. 8	Jackson
2019	Henry R. Shotts, Nebraska	Jennings
2020	J. Richards, Fulton	Fulton
2021	F. W. Creagor, Greenfield	Hancock
2022	C. F. Diefendorf, Evansville	Gibson
2023	F. W. Dunn, Gaston	Delaware
2024	C. A. Martin, Muncie	Delaware
2025	D. S. Wiggins, New Castle	Henry
2026	A. P. Letherman, Valparaiso	Porter
2027	P. D. Nolan, Kouts	Porter
2028	W. W. Barnett, Fort Wayne	Allen
2029	B. M. Doolittle, Whiting	Allen
2030	K. C. Evans, Payne, Ohio	Allen
2031	C. F. Kaadt, Fort Wayne	Allen
2032	D. E. Kauffman, Monroeville	Allen
2033	C. C. Kimmel, Fort Wayne	Allen
2034	J. R. Hicks, Covington	Fountain-Warren
2035	F. M. Jeffries, Attica	Fountain-Warren
2036	D. C. Ridenour, Peru	Miami
2037	E. M. Bloomfield, Peru	Miami
2038	O. C. Wainscott, Peru	Miami
2039	H. E. Line, Chili	Miami
2040	John Freezee, Bunker Hill	Miami
2041	Jasper Cain, Heltonville	Lawrence
2042	C. S. White, Rosedale	Parke
2043	C. W. Overpeck, Rockville	Parke
2044	C. C. Morris, Rockville	Parke
2045	H. C. Rogers, Rockville	Parke
2046	R. E. Swope, Rockville	Parke
2047	R. C. Peare, Bellmore	Parke
2048	A. A. Williamson, Marshall	Parke
2049	Alonzo Martin, Bellmore	Parke
2050	A. B. Lockridge, Rockville	Parke
2051	O. E. Maddox, Rockville	Parke
2052	W. H. Gillum, Rockville	Parke
2053	R. T. Olmsted, Milan	Ripley
2054	J. P. Nicodemus, Logansport	Cass
2055	Earl Palmer, Logansport	Cass
2056	Mary Widdop, Logansport	Cass
2057	J. R. Stewart, Logansport	Cass
2058	B. F. Hutchings, Crawfordsville	Montgomery
2059	T. J. Griffith, Crawfordsville	Montgomery
2060	Martha H. Griffith, Crawfordsville	Montgomery
2061	C. H. Walden, New Market	Montgomery
2062	E. P. Moore, South Bend	St. Joseph
2063	J. K. Geary, Fort Wayne	Allen
2064	D. S. Conner, Cannelton	Perry
2065	J. F. Ginn, Elwood	Madison
2066	M. N. Thayer, Linton	Greene
2067	J. E. Talbott, Linton	Greene
2068	Bruce Fleetwood, Linton	Greene
2069	W. A. Aydelotte, Lyons	Greene
2070	N. S. Woods, Anderson	Madison
2071	S. C. Morris, Anderson	Madison
2072	Jas. W. Birchfield, 2521 E. 10th St., Indianapolis	Marion
2073	H. F. Beckman, 615 S. Noble St., Indianapolis	Marion
2074	Louis Burkhardt, 224 N. Meridian St., Indianapolis	Marion
2075	W. S. Beck, Lombard Bldg., Indianapolis	Marion
2076	B. A. Brown, 3712 E. 25th St., Indianapolis	Marion
2077	John H. Bull, 1222 E. 13th St., Indianapolis	Marion
2078	D. F. Berry, Pythian Bldg., Indianapolis	Marion
2079	J. F. Barnhill, Pennway Bldg., Indianapolis	Marion
2080	J. M. Cunningham, 224 N. Meridian St., Indianapolis	Marion

No.	Name and Address	County Society
2081	W. F. Clevenger, Newton Claypool Bldg., Indianapolis	Marion
2082	L. C. Cline, 224 N. Meridian St., Indianapolis	Marion
2083	A. B. Cole, Newton Claypool Bldg., Indianapolis	Marion
2084	R. S. Chappell, Traction Terminal Bldg., Indianapolis	Marion
2085	C. E. Cottingham, Board of Trade Bldg., Indianapolis	Marion
2086	C. L. Cabalzer, 224 N. Meridian St., Indianapolis	Marion
2087	E. E. Dougherty, 212 W. Michigan St., Indianapolis	Marion
2088	T. J. Dugan, 2520 W. Washington St., Indianapolis	Marion
2089	T. W. DeHass, 2136 N. Meridian St., Indianapolis	Marion
2090	F. O. Dorsey, Newton Claypool Bldg., Indianapolis	Marion
2091	F. T. Dowd, 716 Massachusetts Ave., Indianapolis	Marion
2092	W. H. Foreman, Cor. 16th & New Jersey Sts., Indianapolis	Marion
2093	H. G. Gaylord, 1066 Virginia St., Indianapolis	Marion
2094	H. C. Gemmel, 3018 Northwestern, Indianapolis	Marion
2095	N. P. Graham, 224 N. Meridian, Indianapolis	Marion
2096	J. J. Gramling, 3224 Northwestern, Indianapolis	Marion
2097	Henry Heinrichs, 1639 Bellefountaine, Indianapolis	Marion
2098	H. A. Hutcheson, 2206 Washington E., Indianapolis	Marion
2099	N. E. Jobes, Newton Claypool Bldg., Indianapolis	Marion
2100	H. Jameson, Newton Cloypool Bldg., Indianapolis	Marion
2101	E. F. Kiser, 107 E. 22nd St., Indianapolis	Marion
2102	Helene Knabe, Board of Trade Bldg., Indianapolis	Marion
2103	J. B. Long, 760 W. New York, Indianapolis	Marion
2104	J. B. McLeay, 161 N. Illinois St., Indianapolis	Marion
2105	J. A. McDonald, Newton Claypool Bldg., Indianapolis	Marion
2106	Allison Maxwell, Pennway Bldg., Indianapolis	Marion
2107	W. F. Molt, Newton Claypool Bldg., Indianapolis	Marion
2108	A. L. Marshall, 944 Ft. Wayne, Indianapolis	Marion
2109	John R. Newcomb, Newton Claypool Bldg., Indianapolis	Marion
2110	C. F. Neu, Pythian Bldg., Indianapolis	Marion
2111	O. G. Pfaff, Newton Claypool Bldg., Indianapolis	Marion
2112	David Ross, Board of Trade Bldg., Indianapolis	Marion
2113	L. M. Row, 538 N. Penn St., Indianapolis	Marion
2114	C. L. Ritter, Newton Claypool Bldg., Indianapolis	Marion
2115	E. C. Reyer, Newton Claypool Bldg., Indianapolis	Marion
2116	W. N. Sharp, Newton Claypool Bldg., Indianapolis	Marion
2117	Sarah Stockton, Central Insane Hospital, Indianapolis	Marion
2118	L. A. E. Storch, 1342 S. Meridian St., Indianapolis	Marion
2119	F. L. Truitt, Board of Trade Bldg., Indianapolis	Marion
2120	H. E. Turner, 406 N. Alabama St., Indianapolis	Marion
2121	J. R. Thrasher, Newton Claypool Bldg., Indianapolis	Marion
2122	C. L. Ward, 329 Virginia Ave., Indianapolis	Marion
2123	A. O. Ward, 329 Virginia Ave., Indianapolis	Marion
2124	A. G. Wolferman, 205 Mercantile Place, Los Angeles	Calif.
2125	B. M. Hutchings, Terre Haute	Vigo
2126	F. G. McCarthy, Terre Haute	Vigo
2127	G. W. Tucker, Dana	Vigo
2128	Charles Patton, Terre Haute	Vigo
2129	A. L. Cabell, Terre Haute	Vigo
2130	H. M. Mullikin, Terre Haute	Vigo
2131	J. R. Gillum, Terre Haute	Vigo
2132	E. L. Larkins, Terre Haute	Vigo
2133	J. H. Hewitt, Terre Haute	Vigo
2134	I. M. Casebeer, Newport	Vigo
2135	F. H. Jett, Terre Haute	Vigo
2136	James Elliott, Terre Haute	Vigo
2137	J. B. Maguire, Terre Haute	Vigo

INDIANAPOLIS MEDICAL SOCIETY

Meeting of Nov. 29, 1910

Meeting was called to order by the president, Dr. Earp. Minutes of preceding meeting were read and approved.

The secretary also called attention to the approaching election of officers, and urged that some plan be adopted to secure a wider interest in the election, and a more representative vote. On motion of Dr. McKinstray, the president was empowered to appoint a committee to suggest a plan. He then appointed Dr. McKinstray, Dr. Graham and Dr. Ritter.

Dr. F. R. Charlton read a paper entitled, "Revolutionary Methods in Connection with Syphilis, Demonstrating by Dark-Ground Illuminator the Spirochete, and Reviewing Ehrlich's '606.'"

Dr. Charlton reviewed extensively the steps leading up to the discovery of "606" the experience so far in its use, and the present status of the remedy. He then exhibited a fresh unstained smear showing the living spirochete, using the dark-ground illuminator apparatus.

DISCUSSION

Dr. C. S. Woods was especially impressed by the closing remarks of the essayist that the credit and honor due to Ehrlich cannot be adequately expressed, and the man Ehrlich should not be forgotten in our enthusiasm over the remedy which he has discovered.

Ehrlich was primarily a pharmacologist and has now perfected the highest type of chemical therapy.

Dr. Woods then discussed the chemistry of "606," illustrating it with a diagram of the benzene ring.

It should be remembered that arsenic has a peculiar and almost selective action on the blood. This has long been recognized, and explains why this substance was selected by Ehrlich as the most promising drug for study.

"606" is the latest and most effective combination of arsenic which has been found, and makes it possible to give quantities of arsenic, which otherwise would be fatal, not only without harm, but with the greatest beneficial effect.

Sodium cacodylate and atoxyl represent early attempts to accomplish this same object.

Dr. Wynn showed a small vial containing a single dose of the drug in the form in which it is put up by

the manufacturer. In view of the instability of the drug, it is put up in vacuum tubes. Following the plan of placing this drug in the hands of individuals in different portions of the world, he had received a small number of doses from Dr. Flexner of the Rockefeller Institute. With the drug had come the same request that Ehrlich had made of all those to whom the drug had been given for trial, that it should be given to charity cases only and that it should be used only in the hospital cases, where the records could be completely and accurately kept, and where the patients were under full control. There was also a request that the utmost care should be exercised in selecting proper cases for the use of the drug.

After consultation with the other clinicians at the City Hospital, he had selected one case to which the drug had already been given with most favorable results, and another case would be injected the next day. All were invited to be present on this occasion. In the cases selected so far for treatment, diagnosis had been rendered positive by undoubted lesions, by the finding of spirochetes, and by the presence of the Wassermann reaction. The discovery and introduction of arseno-benzol is a unique event. Every step has been taken with the utmost care and wisdom. The experimental work has been carried on by masters of clinical experience and skill, and no effort has been spared to learn the whole truth about this drug.

There cannot be the slightest doubt that this is a most powerful and most beneficial drug and that there is an element of danger. Some of the dangers have already been appreciated and clearly pointed out. Until more is known there is need of extreme caution in its use.

From our knowledge of the action of arsenic, the warning against its use in severe heart and kidney diseases is easily understood, and admittedly well grounded. He is confident that in spite of all these warnings and precautions, when the drug is to be placed upon the market, and is within the reach of all, it will be recklessly used by ignorant doctors with disastrous results. There will probably also be a demand for its use in cases in which it is not indicated, with resulting failure and disappointment.

The public is aroused and needs to be properly controlled, otherwise both the welfare of the patient and the good name of the drug will be compromised. Several years must elapse before the full effect and value of the drug can be known.

Ehrlich's whole course, and this his latest discovery, shows the intense practical usefulness of even the most technical laboratory investigation and study. There is a broad moral phase of the use of such a drug as this, which is concerning Dr. Wynn greatly. Will not the knowledge that such a drug exists, and that treatment is short, easy, and efficient, tend to remove the fear which undoubtedly is a controlling factor against wrong doing? Will it not rather promote recklessness, and absence of self-restraint?

Dr. Brayton: The results of the introduction of this drug have been widespread and far-reaching. One of the most prominent facts already has been to lift the veil of secrecy and prudery, which had heretofore surrounded this disease, the lay press is discussing the matter fearlessly, and calling the disease by its real name. In the current number of McClure's Magazine is a very interesting and instructive article on the man Ehrlich and his work, and good articles are appearing in the American literature generally.

The best and greatest amount of work done with "606" in this country has been by Fordyce of New York. While already there is a great multiplicity of methods in administering the drug, there is no need for worry or much discussion of methods. There is one safe and efficient method, as given by Ehrlich and Wechselmann. If there be a better method it will soon appear. In our enthusiasm over the new drug, we should not forget that for many years marvelous results have been obtained constantly by our old methods of treatment. Cases intelligently treated with mercury and iodids got well almost without exception. Personally he has failed to see, in a rather large experience, those distressing cases, frequently referred to, which resist all treatment. He does not believe that there is any danger to our morals in assuring people that this disease can be cured easily and quickly. The end is not yet. We are merely on the threshold of a new experience and new attitude towards syphilis and its treatment.

Dr. Hamer: The public is already well informed in regard to this new drug and are beginning to demand its use. Victims of lues are already coming to physicians' offices seeking more information about this drug, even with newspaper clippings in their hands, and begging for administration of this drug in their own cases.

So far this drug must be classed with tuberculin in many respects and as with tuberculin the one great caution is to properly select cases for its use. Doctors will soon find themselves almost forced to use this drug.

Dr. Keen: There is every reason to believe that there will be recurrences of lues after the use of "606," just as there are recurrences of malaria after the use of quinin. This new drug is a pure parasiticide, just as is quinin and it is not at all probable in every case it will destroy every organism in the patient's body. He spoke of the experimental production of lues in rabbits and the use of "606" in those cases. There is now no means of telling when all the spirochetes are destroyed. The Wassermann reaction will not absolutely settle the question since this reaction disappears under mercurial treatment, and also under "606," but as is well known, may re-appear after the mercury is stopped. Disappointment is bound to follow this extreme expectation from the use of the new remedy.

Dr. Pantzer was present when Koch presented his discovery of tuberculin to an audience of 700 doctors at the Berlin Congress and well remembers the thrill which all felt at that time. Ehrlich's work is much the same as Koch's. Koch was extremely careful and accurate in his work, but suffered from undue and uncontrolled exploitation of tuberculin by political and commercial agencies.

Ehrlich seems to be making every attempt to prevent this same unfortunate experience.

Dr. Charlton closed the discussion, and exhibited specimens to those present.

The society then adjourned.

R. H. Ritter, Secretary.

TWELFTH DISTRICT MEDICAL SOCIETY

The Twelfth District Medical Society met in regular session Nov. 15, 1910, at the Anthony Wayne Club, Fort Wayne. Meeting called to order by President Metts. About sixty members present. Minutes of previous meeting read and approved. Constitution and by-laws read and approved as read.

Dr. Arthur Elliott, of Chicago, conducted a clinic at Hope Hospital in the morning. Six cases were presented as follows: Three cases of exophthalmic goiter; one case of diabetes complicated by renal disease; one case of arteriosclerosis presenting cardiac changes, and one case of heart block.

Case 1.—Graves' Disease. Characteristic triad and accessory symptoms. History dates back two years, with acute manifestations beginning February, 1910. Total loss of weight 50 pounds. Under rest treatment and hot water injections into thyroid gland has improved clinically and regained ten pounds. Dr. Elliott referred to atypical cases in which only one of triad of symptoms is present, the most common single symptom of which is enlargement of thyroid, next in order being the tachycardia. These cases may at any time develop typical form. The treatment is a mooted question, though the tendency toward surgical treatment is growing. All cases should have early appropriate medical treatment. Mention was made of the brilliant surgical results of Kocher and Mayo. Extirpation markedly reduces toxicity. Specific therapy as yet unsatisfactory. Persistent use of thyroidectin sometimes does good in mild cases.

Case 2.—Forme frûste or atypical thyroidism. Always nervous from childhood. Presents thyroid enlargement and intermittent tachycardia. No bruit; no tremor. Thyroid enlargement began four or five years ago, after launching into business. Blood-pressure 150 m. Dr. Elliott referred to relation of adrenals to thyroidism and high tension states. High blood-pressure in ambulatory cases. Important to recognize these early; atypical cases should be differentiated from tuberculosis, which may also be present in connection with hyperthyroidism in young women.

Case 3.—Exophthalmic goiter. The peculiar feature of this case is the early appearance of exophthalmos. So-called ocular findings are probably of less significance than we are apt to believe. Patient presents bilateral enlargement of thyroid; soft pulsation. Cardiac impulse outside of nipple line; some thrill over apex; right cardiac border not beyond sternum. No epigastric pulsation. Blood-pressure 150 m. Does not attach much importance to coarse tremors. Tremor of Basedow's disease is fine and silky. Referred to ligation of thyroid arteries as preliminary treatment in severe cases. Advocates early surgical intervention when it is to be applied at all. Iodin administration risky in fully developed cases.

Dr. Porter here discussed hot water injections in thyroid cases of exophthalmic type. Idea suggested by effect of hot water injections in the treatment of tumors of a vascular type. Experimental test on dogs has proved satisfactory. This treatment has decreased size of tumor, made it softer and has relieved many subjective symptoms. Procedure applicable to severe cases where the slightest operative interference under anesthesia is dangerous, and as a substitute for the effect of rest. Steam often produces slough. The esthetic effect of injections is better.

Case 4.—Cerebral apoplexy. Mrs. G. Age 59 years. Some epigastric pain; polyuria; glycosuria; blood-pressure 210 mm. Case is one of a complication of a complication. Peculiar feature is high pressure in diabetes. In this case it is due to arteriosclerosis. Diabetes is usually a hypotensive disease. Examination shows every evidence of senility; heart enlarged; apex diffuse and well toward axillary line; no thrills at apex. Transient impulse over upper sternum. Enlargement of heart to right. Urine shows sclerotic nephritis, as is common in old diabetics. So-called diabetic may often be really uremic. Treatment here consists in conventional one for diabetes and means to overcome increase in pressure. Believes in use of nitrites, but only when pressure is 190 m. or over and then not long continued. Dechloridization indicated.

Case 5.—Mr. B., age 50 years, banker. Admitted 3 years ago with sciatica; later angina with effusion in chest. Now has constant pain in chest. Urine and blood examination negative. Blood-pressure averaged 175 m. No eye changes. Left heart border 4 cm. to left of normal, right border at sternal border. Lungs negative. Arteries show distinct fibrosis. Symptoms of myocardial degeneration present, particularly substernal oppression. Iodids indicated, but not vasodilators; quantitation of diet; hydrotherapy.

Case 6.—Heart block. Mr. H. Has repeatedly had vertigo and syncope. Pulse 36 at wrist. So long as block continues no danger of syncope. Pulse small; arteriosclerotic. Jugular pulse easily discernable; 2. to 1 rythm of radial to jugular pulse. Heart somewhat enlarged; 1 to 2 rhythm shows partial heart block. True heart block depends on alteration in bundle of His. Treatment of condition unsatisfactory; eliminate all strain. Sudden death may often be due to heart block, especially during acute disease.

AFTERNOON SESSION

Dr. John L. Porter, of Chicago, presented a paper on "The Treatment of Club Feet."

In opening the discussion, Dr. Rosenthal showed plaster casts of cases operated by him several years ago. First thing done was incision of plantar fascia; at second operation cuneiform resection was done. Braces made. Showed photograph of boy running about with good result. Manual reduction often possible. Reproach on profession that children should go to full growth with deformity. Approves of osteoplastic method of reduction.

Dr. M. F. Porter believes in early correction by accoucheur. Likes short tenotome best. Makes use of shoe with wedge on outer edge of sole. Danger of slipping in application of plaster cast. Thinks that inner aspect of foot is too short and not too much lengthening of outer side. Deprecates the occurrence of paralytic club feet—it should be prevented, although transplantation should not be done too soon. Is not favorable to forcible correction.

Dr. McOscar said that many of these cases are treated by irregulars and often with good results, so that physicians should be able to take charge of them.

Dr. McCaskey said that an important and difficult point to determine is when and what muscles are to be attacked. Electrical tests can be of considerable use, and the galvanic current is of most service, properly controlled as to quantity.

Dr. Fulton, of Bluffton, asked to what extent the muscles, nerves and blood-vessels can be stretched and still retain normal function.

In closing, Dr. Porter, of Chicago, said that eighteen months should elapse in paralytic form and reaction of degeneration be present before transplantation is advised. Not only uses outer wedge to sole but also a steel plate on bottom of it. Does not resect thickened

subcutaneous tissue. Spoke of successful reduction in a man 45 years of age.

Dr. Allen Hamilton read a paper on "Tuberculosis of the Peritoneum."

In opening the discussion, Dr. Weaver said he was struck by essayist's remark that one in every six cases showed peritoneal tuberculosis at autopsy. Borschke's statistics show 16.6 per cent. of peritoneal involvement in all cases of tuberculosis. Bacilli are absent in fluid of effusions. Section of tubercule may establish diagnosis.

Dr. B. Van Sweringen has seen one case of fulminating form. Intestinal obstruction by process which proved to be a general miliary one. Last case operated by him was thought before operation to be one of ectopic pregnancy but proved to be cystic variety of peritoneal tuberculosis. Though as yet unexplained, clinical fact remains that laparotomy does good.

Dr. Porter, Fort Wayne, said that we must not conclude that all cases of abdominal ascites with so-called tubercles in belly are cases of tuberculosis. Referred to colon bacillus infection. Had not thought cases with "stormy" onset common. Does not drain except in mixed infection.

Dr. McCaskey said that he believes the etiology of condition lies in intestinal tuberculosis, a condition often overlooked. Infection from intestine may be from blood-vessels or lymphatics, or by being carried through mucosa without break in continuity of mucosa. Asked concerning differential count in cases of peritoneal tuberculosis where high count is present.

Dr. Rhamy said that tubercle bacilli are easily found in acute form, but rarely in chronic form. Colon bacilli in case described may have been secondary infection.

Dr. Kimberlin, of Indianapolis, said it is difficult to say which cases are most suitable for operation; ascitic form not best in his experience, but rather the dry one. Acute form not at all favorable. Important to differentiate from typhoid. Drain very apt to produce fecal fistula. Increase of small lymphocytes in blood is suggestive. Thinks we fail in hygienic care of these cases just as in other cases of tuberculosis.

Dr. Rothschild, of Fort Wayne, referred to danger of hospital infection.

In closing, Dr. Hamilton corrected Dr. Weaver, saying that one hospital case in every six has some tuberculous infection. Is struck by benefit of mere tapping. Does not approve of drainage. Source of interest to him has been the number of acute, stormy cases. Many cases derive infection through uterus.

Dr. Charles R. Dancer read a paper on "Acute Poliomyelitis," detailing very exhaustively the history of the disease, from the first description by Jacob Von Heine down through the numerous cases and epidemics that have more recently been studied. He laid particular stress on the exhaustive clinical and experimental work lately done by Flexner and Lewis. Emphasis was laid on the pathology, morbid anatomy, symptomatology and diagnosis. The interesting relation of the immunity produced by one attack or by prophylactic injections was dwelt on. From this the deduction was made that our chief hope in the therapy of the disease lies in the serum treatment.

Dr. Kane, Fort Wayne, in opening the discussion, said that recent epidemics served to stimulate recognition of infectious nature of the disease, and because of contagion the necessity for quarantine. Monkeys cannot be used for human immunization. Called attention to atypical blood-supply of muscles involved. Mild cases may be most infectious. Different epidemics vary in contagiousness. Little hope for immunizing treatment as cure. Early eliminative treatment is best so far.

Dr. Fuller, of Bluffton, reported three cases, first of which showed partial paralysis of lower extremities and complete paralysis in upper extremities, with retention of urine. Second case is gradually recovering. Child is two years of age. Case was thought to be suffering with indigestion. Third case had temperature of 104 degrees F., paralysis of all four extremities and inability to use right side of chest, which disappeared in two or three days, and is gradually improving so far as paralysis is concerned. Look for a little stiffness in trunk or extremities and don't confuse with digestive disturbances. Does not think that spinal puncture gives sufficient data to justify procedure.

Dr. McCaskey said that early diagnosis is so important that all diagnostic means should be exhausted. Should have no hesitancy in using lumbar puncture, for it is valuable and may aid in prophylaxis. Reasoning from comparative pathology as shown in monkeys, we should get results from immunization. Virus widely distributed in tissue of body, even being found in lymphatic glands. Lumbar puncture should be utilized whenever question of diagnosis is in doubt.

Dr. Stemen, Fort Wayne, thinks there is danger in puncturing cord because of possible ultimate results.

Dr. Frank Dinnen referred to negative findings as reported in Pennsylvania State Society symposium.

Dr. McCaskey said there is absolutely no danger in puncturing spinal column.

In closing Dr. Dancer said there are differences between sporadic and epidemic forms of the disease and between different series of epidemic form. Deltoid paralysis best treated by elevation and rest. Lumbar puncture necessary to differentiate from cerebrospinal meningitis. Has seen two cases of sporadic variety.

Adjourned afternoon session.

EVENING SESSION

Called to order at 8 p. m. at Wayne Club by Dr. Metts, with 25 members present. Paper of the evening was by Dr. A. C. Kimberlin, of Indianapolis, on "Some Suggestions in Cardiac Therapy." (Paper appears in full in March issue of The Journal.)

In opening the discussion, Dr. McCaskey said he was pleased with mention made by essayist of psychic influence in these cases. Related instances illustrating this phenomenon. Is in general accord with essayist in regard to therapeutics of digitalis but believes in general dictum of contra-indication in arteriosclerosis. Would not give digitalis without vasodilators in arterial spasm. In later myocardial change in arteriosclerosis, unless bundle of His is involved, digitalis is indicated. Good hygiene most effectual.

Dr. Drayer spoke of Stengel's test of functional capacity of heart by resistance exercises. Believes powdered extract of digitalis most constant in effect. Spoke of transient effect of cardiac remedies.

Dr. Porter, Fort Wayne, asked what dosage and form of digitalis Dr. Kimberlin used. Dr. Kimberlin uses doses of two to four drams of infusion digitalis.

Dr. W. D. Calvin thinks continuance of use of digitalis depends on symptoms and progress of case. Approves of non-medicinal measures. Often uses aconite in conjunction with digitalis.

Dr. Morgan, Fort Wayne, has seen no effect produced by one dram doses of tincture of digitalis.

Dr. Kimberlin was forced to leave city before close of discussion.

Adjourned. B. P. Weaver, Secretary pro tem.

ALLEN COUNTY

Fort Wayne Medical Society

Meeting of Jan. 31, 1911

Society met in regular session at the Anthony Wayne Club with twenty-five members and several visitors present. Meeting called to order by President Wallace. While waiting for the speaker of the evening, whose train was late, the secretary read communications from the secretary of the Elkhart Academy of Medicine regarding House Bills Nos. 80 and 81 and Senate Bills Nos. 10 and 11, known as the Good Roads Bills, and from the secretary of the Cass County Medical Society concerning the bill to be introduced accepting the gift of $250,000 of Dr. Long to the state for a hospital and an appropriation of $25,000 per annum for maintenance of same, asking the society to take favorable action on these bills. Motion carried that the secretary send communications to the senators and representatives endorsing these bills.

Dr. Wm. F. Metcalf, of Detroit, presented the paper of the evening on "Division of Fees." Dr. Metcalf said that he believed in education on the subject. The family physician or general practitioner should be the family representative at the operation. He thinks the family physician is underpaid, not only for work in connection with the surgeon but generally. There can be no objection to surgeon collecting fee for physician referring case provided patient's receipt states that the fee collected is for the physician. He believes that most doctors are above the secret division of fees. Believes in being honest with patients, and tells them that the doctor that referred them to the surgeon is entitled to a fee for his services. Proprietary medical schools are turning out doctors in the very atmosphere of graft. He said that medical grafters are fast increasing, and can confirm this statement by his own experience, for he has been giving attention to this matter for the last five years. He thinks the patient suffers when the doctor who refers the case assists the surgeon in operation, as the surgeon can do better work with his own assistant. The effect of division of fees is to tempt the family doctor to send cases to the highest bidder. Quoted lay writers who think that graft by a surgeon is the most dangerous and vicious form of graft. Thinks the country practitioner's judgment is often warped by the thought of a large fee for consultation or operation if a surgeon is called into the case, and thinks there will be little left for himself. He said a fee should be demanded in proportion to responsibility assumed.

Dr. C. E. Barnett said that in his opinion if the practice of fee division is continued it will disrupt the profession. Honesty is the best policy. Reciprocity is the natural instinct in man, so there is no necessity for dishonesty, for if one man is good to the other it is natural for the other to reciprocate. Fee division clandestinely done is a bribe, and there is no limit to its harmfulness. The family physician's confidence is all powerful with the patient, and a medical man dishonest to his patient is a most dangerous man. God pity the man who is crooked for mere dollars' sake. The commission man or the man who divides fees, is untrustworthy, usually incompetent, and is always conscience hardened. There are many ways to elude this question but the only way that is right is an open-and-aboveboard dealing whereby the patient and all parties concerned know at all times that which every man is doing.

Dr. Wheelock said he had had but two requests to split fees and mentioned the names of doctors making the requests. Believes these men asking commissions should be named and exposed.

Dr. Porter said he had been asked a number of times to divide fees. He does not for one moment think that everyone who asks for a commission or takes a commission is necessarily dishonest—but the principle involved is wrong. The only difference between the man who accepts a division of fees and the man who pays for the assistance rendered by the men who refer cases to him is that the latter is the bigger coward. Does not know of but one man who openly champions the division of fees, that being Dr. Lanphere, of St. Louis. Has no objection to the charge rendered by doctors referring cases if it is done honestly and a statement rendered to patient stating this fact.

Dr. Bulson thinks the division of fees dishonest and unethical and his position in the matter is well known. The patient should pay the family physician. The general practitioners ought to charge respectable fees. The average general man is afraid to charge a decent fee. Does not believe patients object to these charges when they understand the value of service rendered. There is no reason why the general practitioner should expect the surgeon or specialist to collect his fees. It is his business to collect his own fees for any and all services rendered the patient. Publicity and education are the best measures in dealing with the question of fee division as ordinarily practiced.

Dr. Duemling said the division of fees comes up daily to those who are doing special work. Thinks the practice of paying a certain per cent. to the man referring the case is damnable, but thinks it commendable to pay for assistance rendered by a man who refers cases, as it is paying for service actually rendered. Surgeon frequently takes all that patient can afford to pay and there is nothing left to pay country practitioner. Believes that surgeon should protect the doctor who brings him cases.

Dr. Porter asked how much Dr. Duemling paid for assistance, and Dr. Duemling answered that it depended on the amount of work done by the assistant. Dr. Porter then said, "Isn't it a fact that you can get better assistance and at less cost by having regular assistants on a salary, and isn't it a fact that you pay the large fees to general practitioners for assistance because you expect them to send other cases to you."

Dr. Calvin said he was in favor of Dr. Duemling's plan, and that when a patient goes to the hospital the general practitioner and specialist should work together, and the responsibility be divided. He thinks the surgeon often neglects the medical side of the case, and the general practitioner is useful in filling the requirements of the case. He can see the position of the man who accepts the fee. In many cases there are those who do not respect the patient under these conditions, and some do respect the patient in receiving the fee.

Dr. Weaver, speaking from the standpoint of the assistant, said that Dr. Calvin's statement that the

surgeon neglects his general medicine should not be true, for the surgeon has no business to neglect his general medicine. He thinks that the fee given to salaried assistants is adequate for services rendered, and it is not in the interest of the patient to have unskilled assistants who receive fees not for what they do for the patient, but for what they do for the surgeon by sending patients.

Adjourned. G. Van Sweringen, Secretary.

HUNTINGTON COUNTY

Meeting of March 1

The Huntington County Medical Society met in regular session March 1. Dr. G. H. Brodbeck read an excellent paper on "Epilepsy," treating the subject from an historic as well as a scientific standpoint. He emphasized the fact that we should not be inclined to give an unfavorable prognosis, but should make more of an effort to control the condition by means of prophylactic measures. The doctor advocated the use of solanum carolinense, together with the bromids.

Dr. C. W. Fry read a paper on "Anterior Poliomyelitis," in which he advocated massage of the muscles involved after the acute stage has passed. He believes massage to be superior to electricity. Dr. Fry presented a patient, male, aged 3, who had high temperature for three or four days in September, followed by paralysis of right leg. The paralysis developed on third day of acute illness. Patient complained of much pain for about two weeks. At present he walks, but drags right foot.

Dr. F. C. Morgan made a report on the prevailing diseases of the month, the most prevalent being tonsillitis. He also discussed the treatment of the prevailing diseases.

Dr. W. S. Grayston showed a specimen of spinal cord from patient who had been shot in the neck over a year ago. The bullet had penetrated the cord and lay against the meninges of the side opposite the point of entrance. X-ray plates had shown the location of the bullet.

The society continued the committee appointed at a former meeting to obtain a room in the new Court House to be used as a reading room and library for the members of the society. The next meeting will be held at Roanoke, March 22.

Adjourned. R. Q. Taviner, Secretary.

Meeting of March 22

Society met at Roanoke, March 22, with sixteen members present. The society expects to hold meetings in all the outlying towns of the county this year, as it is felt that the members of the society in these towns are entitled to some of the meetings.

Dr. W. C. Chaffee, of Huntington, gave a very fine discussion of the subject "Apoplexy." The speaker gave the principal differentiating symptoms of apoplexy as the lack of parallelism of the pupils, and the complete paralysis of all muscles.

Dr. S. Koontz, of Roanoke, opened the discussion by saying that there is usually very little to do in the way of therapeutic measures in apoplexy, as the condition is almost always fatal in 48 to 72 hours. He, however, brought out the point that much may be done for these patients if seen before the attack.

Dr. A. H. Northrup, of Markle, read an interesting and instructive paper on "The Differential Diagnosis and Treatment of Pleurisy and its Complications." The author said that pleurisy and pneumonia are sometimes overlooked when the pain is referred to the abdomen, especially in the region of the appendix, as it is many times in children. He advocated the use of the aspirating needle if there is any doubt as to the condition, as the needle not only proves the presence of fluid but also the character of the fluid. Treatment of acute stage consists in absolute rest in bed, elimination by means of calomel and a saline purge, the salicylates in from 1 to 2 drams daily, strapping with adhesive, counter irritation with mustard and quinin, and opium. If the fluid has not disappeared or been reduced within a week after the return to normal temperature or when there is pus present, a thoracentesis should be done.

Dr. Ervin Wright, of Huntington, opened the discussion by saying that most often physicians make mistakes in overlooking empyemas following pneumonia in children.

After the program, the physicians of Roanoke entertained with lunch and cigars.

Adjourned. R. Q. Taviner, Secretary.

KOSCIUSKO COUNTY

The March meeting was held on the 28th instant. Dr. C. C. DuBois reported two cases of unhealed umbilical sinus, and also made the monthly report on the matters most interesting in the current magazines.

Dr. J. W. Heffley, Mentone, read a well prepared paper on "Chronic Rheumatism and Arthritis Deformans," which was discussed by Drs. Yocum, Young, Anglin and Rhamy. Dr. Rhamy of Fort Wayne read a paper on "Vaccine Therapy," which was discussed by Dr. Grandy of Chicago and Dr. Cary of Silver Lake. President Yocum expressed the pleasure the society felt in having Dr. Rhamy and extended the thanks of the society to him for the instructive and interesting paper which he had presented.

Adjourned. C. Norman Howard, Secretary.

MADISON COUNTY

Meeting of February 28

The Madison County Medical Society met in Summitville, Feb. 28, 1911, at 2 p. m., with seventeen members present. President J. E. Hall in the chair.

Dr. Mobley reported the condition of Summitville and vicinity as regards tuberculosis. Dr. Theodore Potter, of Indianapolis, gave a very interesting and instructive talk on the tuberculin diagnosis.

Adjourned. Etta Charles, Secretary.

Meeting of March 28

Society met in regular session in the public library in Anderson at 7 p. m., with thirteen members present. President J. E. Hall called the meeting to order. Dr. M. A. Austin presented a case of blastomycosis of leg. He also reported a case of omental cyst; Banti's splenomegaly, and hypertrophic cirrhosis of the liver in an infant. Dr. A. W. Brayton, of Indianapolis, gave an interesting talk on the history, diagnosis and treatment of blastomycosis.

Adjourned. Etta Charles, Secretary.

MARSHALL COUNTY

February Meeting

At the February meeting of the Marshall County Medical Society, the following program was presented:

Papers on "Acute Gastritis," by Dr. J. B. Shipley, of Burroak; "Talipes," by Dr. S. C. Loring; "Pneumonia," by Dr. C. F. Holtzendorff. All the papers were ably discussed. The meeting was well attended and all present manifested a deep interest in the future welfare of the society.

Adjourned. J. W. Eidson, Secretary.

March Meeting

The Marshall County Medical Society met in regular session at Dr. Eleys' office March 30, with full attendance. Dr. Thompson read a paper on "Circumcision in Infancy." He strongly advocated the operation in many cases. Dr. Stephens read a paper on "Influenza" that was well received. Both papers were fully discussed.

Adjourned. J. W. Eidson, Secretary.

PARKE COUNTY

The regular meeting of the Parke County Medical Society was held in Rockville, March 7. Election of officers resulted as follows: President, Robert Hester, Bloomingdale; vice-president, C. S. White, Rosedale; secretary-treasurer, A. B. Lockridge, Rockville; delegate, R. C. Peare, Bellmore; alternate, C. C. Morris, Rockville.

Interesting cases of erysipelas treated successfully with antistreptococcus serum were reported by Drs. C. W. Overpeck and R. C. Peare. Dr. C. C. Morris recommended the local application of a saturated solution of magnesium sulphate in case of erysipelas.

Adjourned. A. B. Lockridge, Secretary.

VIGO COUNTY

The Program Committee of the Vigo County Medical Society has made several innovations this year, adding features which have largely increased attendance and greatly stimulated interest. The number of members present at each of the weekly meetings has varied from twenty to forty in attendance.

On January 10 the subject was "The Acute Infections of the Nasopharynx;" Dr. L. Z. Breaks discussing "Involvement of the Sinuses," and Dr. Jas. McCall "Ear Involvement." On January 31, a clinic was held at the Union Hospital. Dr. F. E. Jett presented a boy aged 10 with a single large softened inguinal gland—of tubercular origin. Dr. R. Gillum presented a boy in which an operation for cleft palate had been performed. At a preliminary operation the rami of the maxillæ had been chiseled through, drawn nearer together and wired with the aid of lead plates. At a subsequent operation seven weeks later the mucous membrane and periosteum had been sutured. Dr. Amos H. Caffee presented a baby born one hour before; a shoulder presentation in a primipara, in which he had been called eight hours after labor began; the hand was protruding almost to the vulva; the shoulder was pushed back, the feet drawn down and delivery completed safely by version.

On February 7 a moving picture film on surgery was shown after the regular meeting of the society. It was very interesting, representing a number of operations on Goiter. The film would have been better if only the field of operation and the operator's hands had been shown.

On February 14 a joint meeting was held with representatives of the various civic organizations to discuss the subject, "Sex Hygiene." The urgent necessity of instructing the young on matters pertaining to the care and development of the generative organs was dwelt on; and the great dangers of allowing young boys and men to be influenced by the misinformation and untruths circulated by quacks, was pointed out. Steps were taken toward forming a permanent organization for the purpose of instruction of the adolescents, and for circulation of proper literature on the subject.

On February 21 a clinical program was given, together with reports of cases. On February 28, Dr. J. N. Hurty delivered an address on "Diphtheria." Dr. Schweitzer, of Indianapolis, discussed its epidemiology.

B. V. Caffee, Secretary.

BOOK REVIEWS

The Prevention of Sexual Diseases. By Victor G. Vecki, M.D. With Introduction by Wm. J. Robinson. The Critic and Guide Company, New York, 1910. Cloth. pp. 132. Price $1.50.

Multum in parvo certainly applies to this little volume, and the author makes good his prefatory warning that only the plain, unvarnished truth will find place in the work.

All through the treatise one is struck by the emphasis laid upon the universality of the sexual appetite in the normal individual and the practicability of meeting conditions as they really exist, without resort to vague theorizing and positive denial.

The venereal evil was, is and will be ever with us, and there is much more to be gained from the sensible recognition of the fact than by the ostrich-like policy of hiding from it and denying its existence. False modesty, prudery and hypocrisy have reigned long enough, and such hope as may exist for us in the conquest of the "black plague," must needs lie in regulation, education and good judgment.

The Surgery of Childhood Including Orthopedic Surgery. By DeForest Willard, A.M., M.D., Professor of Orthopedic Surgery, University of Pennsylvania, etc. With 712 Illustrations including 17 in colors. Cloth. pp. 800. Price $7.00. J. B. Lippincott Co., Philadelphia and London.

Within the past few years a relatively new field has opened up in surgical literature, or rather a neglected one has been recognized, viz.: that part of surgery that is peculiarly adapted to the period of childhood. Heretofore certain variations from stereotyped adult measures have been recommended for early life in our general surgical texts, but it is only recently that those data pertaining to early life particularly have been collected and presented to the profession in specific form. Among such works Dr. Willard's work takes a leading place because it combines the results of large, practical experience, carried through years of close application, with those of present day methods in laboratory study and treatment. At the same time a wide familiarity with current literature especially germane to the subject in hand is obvious, even to the most casual reader.

Throughout the work one may observe the author placing himself in favor of prophylactic and hygienic treatment in preference to older and more empirical measures.

The work marks a distinct advance in pediatric literature and should find a welcome place in the library of any practitioner who treats children.

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ORIGINAL ARTICLES

ARTERIOSCLEROSIS *

H. R. LOWDER, M.D.
BLOOMFIELD, IND.

A condition of the arteries in which their walls become hard, thickened and inelastic, and in which the lumen of the arterioles, in some instances, become so narrowed as to result in their entire obliteration.

This affection is not included in any nomenclature of diseases that has been published up to the present time; but modern literature has been full of its description, as much so, as though it were not a disease as old as the human race itself, standing ready to bring to an end the life of the individual, provided it is not forestalled by some other agency.

Arteriosclerosis is caused by inflammation of the intima or inside membrane of the arteries. The vasa vasorum that supply the blood to the arteries and serve to maintain all their vital functions being small, soonest become obliterated by the diseased process. In addition to the preexistent inflammatory condition of the arteries, their nutrition is to an extent cut off by this obliteration. The first thing that takes place in an organ or part, when its blood supply, in part, is cut off, is to undergo a degeneration of its peculiar anatomic structure. This condition becomes existent in arteriosclerosis. In inflammation of the intima fibrous lymph is deposited from the blood of the vasa vasorum within the interstructural spaces of the arteries and becomes organized into contractile fibrous tissue. This makes the artery hard and inelastic and the lumen narrow. As the small arteries become occluded the normal structure of the larger arterial walls including the muscular layer becomes degenerated. As this degeneration becomes complete the arterial walls become fragile and easily ruptured.

The first step in inflammation is irritation; and nothing is more productive of irritation than toxins developed within the body or introduced along with ingesta. Investigation has shown that the colon during periods of constipation becomes a culture tube, as it were, for the growth and development of innumerable bacteria, which growth and development produce immense quantities of toxins that enter the blood current setting up an irritation and resulting inflammation of the intima of the arteries. Certain elements of food contain irritating bodies that are taken up by the absorbents and poured into the blood and held there for a time before they can be eliminated by the emunctories from the system. The conditions and symptom-complex of auto-intoxication are the results of the poisons absorbed from the intestinal canal and emptied into the blood currents. Dr. Harvey Cushing of Baltimore, who has made a careful study of the bacteria in the intestinal canal says: "Obstruction of any part of the alimentary canal produces stasis and then the intestinal contents become rapidly filled with organisms which increase in virulence as the stasis continues."

It seldom happens that the whole arterial area is involved in the condition of arteriosclerosis in a single case. It may exist in the coronary artery and its branches, in the aorta and the larger arteries, in the arteries of the kidneys, the brain, the stomach, and the general muscular system, producing symptoms, conditions and diseases vastly differing from each other, differing as their parts differ from each other in function and importance, and yet all a result of a common cause.

* Read before the Indiana State Medical Society at Fort Wayne, Sept. 29, 1910.

When a considerable portion of the arterial system becomes involved a marked disturbance of the cardiac function is presented. The inelasticity of the arteries and their narrowed lumen necessitate a greatly increased labor on the part of the heart. This results after a time in hypertrophy of this organ. The apex beat soon passes to the left of the nipple line and displacement takes place downward. Its passage to an extent being interrupted the blood must be propelled onward at a greater velocity to meet the demand of the various organs and structures of the body. This requires greater power on the part of the heart. The hypertrophy increases as this requirement continues and thus the needed supply of nutrition to the various tissues of the body are compensated by the increased ability of the heart to work. But the hardening of the arteries continues as the disease holds its sway and simultaneously the heart continues to enlarge to meet the necessary compensation. After a time the cavities of the heart become so large that the auriculoventricular openings are not closed by the valves, regurgitation of the blood takes place, compensation is lost and death is the result of valvular insufficiency. But in arteriosclerosis this heart hypertrophy does not always exist. It depends on the extent of the arterial surface that is affected. Sometimes a small group of arteries only are affected—not enough maybe to perceptibly affect the general circulation. Then the disease becomes manifest in some local part and not with such a general overwhelming effect.

On account of the greatly increased arterial tension and the reduced elasticity of the arterial walls the resiliency of the blood against the aortic semilunar valves closes them with a louder click and proportionate to the tension, thus accentuating the second sound of the heart. The stethoscope placed over the second articulation of the costal cartilage of the right side with the sternum causes this to become manifest—one of the cardinal signs of arteriosclerosis during the stage of cardiac compensation.

A point of great consideration in this disease is the frequency with which it attacks the muscular structure of the heart. The coronary artery, the source of the blood supply of this center of the circulation, arises immediately beyond the semilunar valves in the aorta. The circulation is maintained in this artery by the recoil of the blood as it rushes back against these valves. This artery and its branches carry the nutriment of the heart. When they become occluded the muscular fibers by a process of degeneration are changed into fatty tissue, a substance that has no contractile power and requires very little nourishment to maintain its existence. Its metabolic energy is slight in comparison with that of a contractile muscular fiber. Of course the extent of the fatty degeneration of the muscular fibers is in proportion to the extent of the obliteration of the artery or arteries, and in the same proportion is the heart weakened. Its walls become thin and flabby and the circulation feeble. When the heart is the chief point of attack we have no hypertrophy of compensation; we have no arterial hypertension, but a weak individual who is liable to die suddenly following some violent physical effort or the exercise of some strong emotion—the proverbial "heart failure" that disturbs Dr. Hurty and life insurance companies when given as a cause of death. This condition of the heart may be inferred when the pulse is small and compressible, the sounds weak, dyspnea after slight exertion, cyanosis and maybe dropsy in a person beyond middle life. Syphilis will produce sclerosis in earlier life.

In the same general way sclerosis of the arteries causes chronic Bright's disease of the kidneys. The small arteries become inflamed and occluded proportionate to the extent of the disease, destruction of the normal anatomic elements takes place and in their stead cicatricial tissue develops. This scar-like tissue by its contraction increases the destruction of the epithelium, the uriniferous tubules and the tufts of the Malpighian bodies. So here we have a local disease, the result of the general cause, with its clinical history, pathology, various phenomena and results. The reason the individual generally lives so long with this form of Bright's disease is on account of the compensatory action of the hypertrophied heart. The blood is sent with greater velocity through the remaining healthy arterial twigs to come in contact with the epithelium of the tufts and the uriniferous tubules. Thus the life of the patient may be prolonged notwithstanding the crippled kidneys with their limited secreting surface. But how rapidly certain does the end approach when the heart and kidneys are both primarily affected. There is no compensation to aid the kidneys. Progress of the disease must be checked promptly otherwise death is sure and certain.

The brain is a part of the body, as mentioned above, that is frequently crippled by the hardening and destruction of the arteries that ramify its various structures. It has been proved that a great many functions of the brain are actions of localized centers; such as movements of the extremities, of respiration, of deglutition, the special senses, coordination, and of several other functions which are pretty well mapped out. Affection of the anterior and middle cerebral

arteries of the left side may cause paralysis of the centers of speech and of the right upper and lower extremity, of the right corresponding arteries, paralysis of the left upper and lower extremities and of the center of speech, when the center of speech is located in the right side. The point of diagnosis in the causes of hemiplegia is in the gradual onset of the disease. As the arteries become hardened and destroyed the brain centers that they supply as gradually lose their functions. Thus we may have paralysis of any group of muscles or even a half of the body from a lack of nervous energy. In apoplexy and embolism the onset is sudden. Loss of function from sclerosis more resembles tumors in this respect; but tumors are accompanied with great pain, and changes that may be observed in the optic nerve entrance and retina. In cases of advanced hemiplegia a diagnosis may be difficult unless we have a complete and reliable history. Hardening of the arteries may affect the will, intellect and emotions, ending in dementia—yes, senile dementia. Apoplexy is frequently a result of degenerated arteries. Their fragile walls cannot withstand the *vis a tergo* and giving way empty their contents into the brain substance which immediately loses its functions by shock and pressure. It is easy to understand how varied in severity and importance may be diseases of the brain as a result of arteriosclerosis. The arteries traverse every center and may be affected in every degree of intensity. So in these cases of brain disturbance we may meet with ample opportunity to test our diagnostic ability.

Arteriosclerosis affects the stomach and as we might expect manifests itself by the disturbed function of this important viscus. The most important symptom is pain and tenderness, at first periodic or at intervals and finally almost constant. The gastric tubules from lack of blood lose their functions, the secreting epithelium becomes disintegrated and the digestive fluid proportionately reduced in quantity. A train of digestive disturbances and symptoms are set up which are frequently mistaken for cancer or some hepatic disorder. Dr. John J. Gilbride, instructor in diseases of the stomach and intestines at the Philadelphia Polyclinic, read a paper before the Philadelphia County Medical Society which was published in the *Journal* of the American Medical Association March 20, 1909, in which he reported five cases of arteriosclerosis of the stomach, having treated ten in the few months previous. The symptoms were mostly gastrointestinal. The patients were over 40 years old. Some had symptoms of a generalized arterial disease and some who were even much older complained only of symptoms of a localized vascular disease. Abdominal pain was a prominent condition at first, paroxysmal, lasting a few minutes to a half hour and recurring several times a day, later it became continuous and the patients complained of a dull ache, soreness and throbbing in the abdomen. Sometimes the pain was localized in the epigastric or intestinal regions, less commonly in the lower abdomen. It was increased by exertion and sometimes by digestion. The patients were weak and some had lost weight. The reduction in weight was due in part to dieting, which was undertaken in an effort to relieve the dyspeptic symptoms. The bowels were variable; in some cases there was constipation, or constipation alternating with diarrhea, or the movements occurred at normal intervals. Some patients suffer from attacks of vertigo, and a few complain from a disturbance of vision. The urine is frequently diminished in quantity and may show signs of an interstitial nephritis. Many such patients show symptoms of auto-intoxication at times. In these cases of abdominal arteriosclerosis there was usually a pulsation in the epigastrium and the abdomen was tender and painful. Some patients may have attacks of angina pectoris and the pain may also be referred to the epigastrium. The abdominal aorta was tender in all cases. The results of treatment in these cases were so remarkable as to lead one to entertain a degree of skepticism; but there is no doubt that great good can be accomplished, if applied early, during the inflammatory period, before arterial and organic degeneration have taken place. His remedies are theobromin sodium salicylate, 5 grains, three times a day, and tincture strophanthus 10 drops; and rest in bed. His patients soon recovered.

The muscular system is the great field of attack in this disease. The pains and aches usually happening in the aged, and so commonly attributed to rheumatism, are no doubt mostly the result of inflammation of the arteries supplying the muscles. The same pathologic condition of the arteries in the muscular system is the same as in other parts and structures of the organism. The fibrillæ within the sarcolemma undergo fatty degeneration, and the muscles lose their solidity, size and strength. What else could we expect but pain and soreness in muscles while this disease is in progress? The bent and crooked body and weakening of the opposing muscles, for the disease is not symmetrically developed, are what we find in senility.

The most important cause of arteriosclerosis has already been referred to. There are certain kinds of food, the flesh of animals, that most

readily undergo putrefaction in the intestinal canal. This putrefactive process is microbic. Ptomains, leukomains and other toxins are produced in vast quantities and absorbed along with the fluids that contain them and emptied into the blood. Dr. James M. Anders in a paper read at the meeting of the Indiana State Medical Association at French Lick says: "Chemical investigation has shown that ofttimes disease is attributable not so much to microbic action as to the products of intestinal fermentation and putrefaction. As well said by Field, 'Digestion too, while it transforms albuminoid substances into peptones, also give birth to alkaloidal poisons and lastly toxic substances derived from intestinal putrefaction.' "

The symptoms of this disease are the symptoms of disturbed functions of the organs and structures in which it exists. In the heart we have those of a degenerated and weakening myocardium. In the brain it is shown by a disturbance of functions in its various centers; in the kidneys the symptoms of interstitial Bright's disease become manifest; in the stomach, there are pain and indications of disordered digestion; if the muscles become involved they soon become atrophied, weak, flabby, sore and painful; should a large area of the circulatory system become involved, the heart soon becomes hypertrophied, which may continue until compensation is lost. When death ends the scene it is frequently reported: cause of death, a multiplicity of diseases.

The treatment consists of prophylactic measures and the adoption of such means as will check its progress when once set up, for the hardened atheromatous arteries can never be made new again. As intestinal auto-infection is admitted to be the chief cause, the prophylaxis should be directed to this condition. Dietetics and intestinal antiseptics should be considered in this connection. The proteids and the flesh of animals undergo decomposition most readily in the presence of warmth and moisture. The hydrochloric acid prevents putrefaction in the stomach and the bile in the duodenum. Bacteria begin to show in the jejunum, increasing in the ileum and in the colon are found countless millions. Ordinarily too much meat is eaten. Man is not a carnivoral. He has grinding teeth. His food in the primeval state was nuts and fruits. The development of arteriosclerosis is almost a lifetime process. The damages that are wrought in the arteries and the habits of diet that become established in early life are in the great majority of cases unknown at the time as deleterious to health and preventive of longevity. Metchnikoff claims that the retention of waste products in the intestinal canal is the cause of premature senility. He shows that animals that have shorter colons live longer than those with longer colons. A large list of both kinds of animals is given which seems to prove the contention. If putrefaction of the waste articles of food in the intestinal canal is the cause of disease by producing a condition of toxemia and ultimately causing arteriosclerosis, some means by which the putrefactive process could be inhibited would be a desideratum.

In his book on the prolongation of life Metchnikoff strongly advises the ingestion of acid bacteria for the prevention of intestinal putrefaction. Food has been preserved empirically from remote times by various means, one of these being the use of sour milk. The introduction of lactic acid bacteria has been attempted by various authors, some claim with eminent success. Cohenday took culture of a bacillus isolated from the Bulgarian fermented milk, yohour or yoghart, and reduced intestinal putrefaction materially. He found the Bulgarian bacillus in the feces several weeks after discontinuing its ingestion. Lactic acid up to 1 per cent. in milk is palatable and pleasant; but if mixed with volatile acids such as acetic, formic acid, etc., the taste becomes unpleasant. It is therefore of importance to select the kind of lactic acid bacteria with care. *Streptococcus lacticus*, the organism responsible for the natural sourness of milk, produces about the right amount of palatability. In fact milk which has reached the stage of extreme activity of this organism is eaten by many people as a delicacy. When milk has solidified (clabbered) from the coagulation of the casein brought about by *S. lacticus*, it contains these bacteria in almost pure culture and the lactic acid present is almost pure lactic acid. If milk is kept longer than this, molds decompose the casein, bringing about the alkaline reaction, so that putrefactive bacteria can multiply and putrefy the milk.

There are several manufactories of buttermilk tablets on the market, not much difference in the efficacy of any of them. Lactobaclim, Ferment-actyl, Kifilac, Yogwart, Lacton, Preparation "X," Preparation "XX."

It is claimed that the long lives of the Bulgarians is the result of this ingestion of the large quantities of buttermilk to which they are accustomed.

Constipation must be prevented by such efficient methods of treatment as becomes necessary. It can be plainly understood how a complete and regularly periodic emptying of the colon is always of the highest importance; for the same reason

that an infected wound requires a thorough and periodic dressing.

Iodid of potash given in the usual doses is said by some authorities to give good results in checking the advance of the disease, while others express doubts as to its utility.

In cases of partial paralysis of large or small groups of muscles, or weakness from affection of the myocardium, rest in bed for two or three weeks has a beneficial effect in advanced cases.

In recent or acute cases, before any extensive damage has been wrought, peristaltic action of the colon must be looked after, and the administration of theobromin sodium salicylate in 5-grain doses, and tincture of strophanthus in 10 m. doses three times a day is regarded as good treatment.

THE BACTERIOLOGY, PATHOLOGY AND DIAGNOSIS OF TYPHOID FEVER *

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Although the typhoid bacillus, discovered by Eberth and Koch in 1880, was isolated from the spleen and lymph glands by Gaffky in 1884 and said to have been isolated from circulating blood by stained smears by Poppelman in 1886, the laboratory methods for the diagnosis of typhoid fever were limited for several years to the Widal reaction and the bacteriologic examination of the stools and urine for the bacilli.

In 1886 Fraenkel and Simmonds reported that they were able to isolate the typhoid bacillus from the blood by culture methods in a small percentage of cases of typhoid fever. Positive results were also reported by Silverstein in 1892, by Thiemich in 1895 and by Kuhnau in 27 per cent of cases in 1897. Castellani in 1900 reported that he had 85 per cent. of positive results by the use of large amounts of broth. Schotmüller in the same year reported an equally high percentage of positive results. In 1904 Coleman and Buxton[1] reported 75 per cent. positive results in 604 blood cultures taken in all stages of typhoid fever.

Up to 1906 there were just two methods generally used for isolating typhoid bacilli from the blood. One method was to smear the blood over solid agar or gelatin in petri dishes or to mix the blood with melted agar or gelatin and then pour it into petri dishes. The other method was to mix the blood with large amounts of broth or peptone water to inhibit the bactericidal effect of the blood. This mixture was then incubated for twenty-four hours when inoculations from it were made onto gelatin and agar plates.

In 1906 Conradi reported that ox-gall would inhibit the coagulation of blood. He used 10 per cent. of peptone in the ox-gall to furnish pabulum for the bacilli, and 10 per cent. of glycerin was also added to preserve the ox-gall. The blood was mixed with the ox-gall media and incubated for sixteen hours at 37 C. and a few drops of this growth then spread on Conradi-Drigalski plates. Kayser believed that plain ox-gall was as good as Conradi's mixture. Conradi and Kayser obtained an equally high percentage of positive results.

Fournet, using the blood-clot method of Müller and Graef with the ox-bile method of Kayser and Conradi, had fourteen positive results out of nineteen. Conradi using the same method had forty positive results out of sixty.

In 1906 Eppenstein and Korte reported that blood defibrinated by an oxalate was especially good medium for the growth of typhoid bacilli. In 1907 Epstein[2] advised the use of 0.2 per cent. of ammonium oxalate in 0.6 per cent. sodium chlorid solution. Twenty c.c. of blood were to be mixed with an equal amount of this solution and plated out in six or eight plates of glucose agar, 0.9 per cent. acid to phenolphthalein. In 1908, Epstein[3] reported the results of his method in 158 examinations of 131 patients. He found typhoid bacilli in 70.5 per cent. of cases.

A careful comparison of the results of the methods thus far advised for isolating typhoid bacilli from the blood convinces us that one method is not much better than another. The amount of blood taken and the perfection of the aseptic technic in getting and handling the blood are the most essential requirements.

The Epstein method does, however, lessen the difficulties considerably. For with the older methods it was necessary to take a lot of cumbersome apparatus to the bedside, which required rapid and skilful manipulations, and the sight of so much bacteriologic machinery often frightened and depressed the patient.

Typhoid bacilli occur in small numbers in the peripheral blood; often there will be only ten to twenty-five colonies in 10 to 15 c.c. of blood on glucose agar plates. However, this small number of colonies may be due to the clumping of the bacilli in the blood. The use of the bile media

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* Read at the Fort Wayne Meeting of the Indiana State Medical Society, Sept. 29, 1910.

1. Med. and Surg. Rep., Bellevue Hosp., 1904, i, 97.

2. Am. Jour. Med. Sc., September, 1907.

3. Am. Jour. Med. Sc., August, 1908.

for enrichment may be of some advantage, for the growth of recently isolated typhoid bacilli is rather scant on ordinary culture media. Epstein's method alone gives us an idea of the number of bacilli in the blood. With a perfect technic the isolation of typhoid bacilli from the blood is comparatively easy. Much contamination of the blood in taking makes the isolation of typhoid bacilli difficult and almost impossible. With the use of from 10 to 20 c.c. of blood there will be from 80 to 100 per cent. of positive results; using 5 c.c. or less will give only 60 to 70 per cent. positive results.

We have made forty-six blood cultures on forty-one patients. Most of them were at the Indianapolis City Hospital and were seen at the request of the consulting physicians and interns. We adopted the Epstein method because it seemed to suit our needs best.

Ten c.c. of Epstein's solution were placed in each of several large test-tubes and sterilized in the Arnold on three successive days. The test-tubes are most conveniently carried in the vest pocket. The following procedure was used for getting the blood: a tourniquet was wrapped, not too tightly, about the arm above the elbow; the front of the elbow was carefully sterilized with alcohol and ether, and a moderate sized needle attached to a 15-c.c. Burroughs-Wellcome or Luer all-glass syringe was thrust, bevel down, into one of the prominent veins of the forearm. Usually the pressure of blood in the vein was sufficient to force the piston out. Twenty c.c. of blood were usually taken. This was then thoroughly mixed with an equal amount of Epstein's solution, labelled and carried back to the laboratory, where it was plated out in six or eight petri dishes with 2 per cent. glucose agar, 0.9 per cent. acid to phenolphthalein. In twelve to twenty-four hours, the typhoid bacilli appeared as pin-points surrounded by a greenish ring. The characteristic colonies were then fished out and planted on plain agar slants. Subcultures were made from these into milk, broth and glucose agar. The bacilli were identified as typhoid if they were very motile in broth, produced no gas in glucose media, slight acidity and no coagulation in milk, decolorized with Gram's stain and agglutinated with a powerful typhoid serum. The determinations were usually made in from twenty-four to forty-eight hours from the time the blood was taken.

Of our forty-one cases, a provisional clinical diagnosis of typhoid fever was made in twenty-five. Four of these turned out not to be typhoid, leaving twenty-one clinical typhoid cases. Nine cases, or about 54 per cent. out of seventeen examined before the third week of the disease, had typhoid bacilli in the blood. A patient whose history could not be obtained also had typhoid bacilli in the blood. The earliest time at which a blood culture was positive was on the third day of the disease. Blood cultures were positive in five cases before the Widal appeared.

The following is a summary of our results:

Total number of cultures taken	46
Total number of patients examined	41
Total number of cases proven to be typhoid	21
Total number of cultures taken before third week	17
Total number of cultures positive before third week	9
Total number of cultures positive in first week	5
Total number of cultures positive in second week	4
Total number of cultures positive in relapse	1
Total number of cultures in relapse	2
Total number of cultures time undetermined	1
Total number of positive cultures	12
Percentage of positive in all cases of typhoid	52

Our positive results are not up to the average, for Coleman and Buxton[4] from a review of 1,602 tabulated cases found 1,197, or 75 per cent., positive. They also believe that typhoid bacilli can be demonstrated in every case of typhoid fever in the first week, at which time they are most likely to be found. Failure to find them is due to some fault in technic or insufficient amount of blood taken. Their analysis of the cultures by the weeks in which they were taken is as follows: 224 examinations in the first week gave 200, or 89 per cent., positive; of 484 examinations in the second week, 353, or 73 per cent., were positive; of 268 examinations made in the third week, 178, or 60 per cent., were positive; of 103 examined in the fourth week, 39, or 38 per cent., were positive; of 58 examined after the fourth week, 15, or 26 per cent., were positive.

Brion and Kayser,[5] however, found bacilli in practically 100 per cent. of cases examined. Typhoid bacilli can also be found in practically 100 per cent. of relapses. It seems, then, that typhoid bacilli appear in the blood with the rise of temperature and disappear at or about the time the temperature returns to normal. Conradi believes that the bacteremia persists beyond this time, but Coleman and Buxton[4] were unable to confirm this belief. These universally positive results of blood cultures in typhoid fever prove beyond possibility of doubt that typhoid bacilli are constantly in the blood during the disease. They are most numerous in the first two weeks of the disease and become fewer and fewer as the disease progresses, finally disappearing at or about the time the temperature returns to normal. They reappear with the relapses.

4. Am. Jour. Med. Sc., June, 1907, p. 133.
5. Kolle u. Hetch: Exp. Bakteriol., Berl., 1908, p. 191. Quoted by Russel.

We can no longer consider typhoid fever as simply an infection of Peyer's patches, the intestinal contents and the urine, for the patient may have the bacilli in the intestine and yet not be sick with the disease. In order to have clinical symptoms of typhoid fever, the bacilli must be growing in such situations as to gain free access to the blood. Otherwise he is not sick himself, but may be a menace to others as a bacilli-carrier and distributor. On the other hand, there are cases clinically typhoid, with no involvement of the intestinal tract, from whose blood typhoid bacilli can be isolated. S. Flexner[6] from a study of a number of such cases believes that we will have to recognize that typhoid fever is a protean disease with many diverse manifestations. Henry and Rosenberger[7] isolated typhoid bacilli in pure culture from a case of purulent meningitis in which there was no intestinal involvement. Typhoid bacilli were isolated in many cases of boils and abscesses in pure culture by Bennecke. From these cases he concludes that typhoid bacilli may change their usual nature and become pyogenic.

Coleman and Buxton[4] and Lentz[8] hold that typhoid bacilli invade Peyer's patches and pass from there to the mesenteric glands, spleen and bone marrow, where they proliferate and overflow into the blood-stream; there they are destroyed and their endotoxins liberated. These endotoxins produce the degenerative changes in the different organs of the body with their consequent pathologic physiology. These endotoxins also simulate the production of agglutinins as well as other immune bodies.

When the bacilli are present in the intestinal contents but do not invade Peyer's patches we may have a gastroenteritis. This is a very common symptom in water-borne epidemics. Gastroenteric symptoms are, however, according to Kutscher,[9] more common with the *Bacillus enteriditis* of Gärtner, paratyphoid A and B and sometimes colon bacilli.

Manicatide[10] isolated typhoid bacilli from the tonsils in 40 per cent. of cases in the first week of typhoid. He believes that the infection enters the blood through the tonsils in 70 per cent. of all cases. These cases usually begin with tonsillitis or pharyngitis. Chiari[11] quotes Sanarelli,[12] Walhelet,[13] Wright and Sample,[14] and Brion[15] as believing that a primary disease of the intestine does not exist but that it is secondary to an infection of the tonsils or some other part of the upper digestive tract by which the bacilli get into the blood, from which they are excreted by the liver into the bile and thus the intestinal lymph structures are invaded. Blumenthal[16] thinks the bacilli pass through the capillaries of the liver into the bile ducts and gall-bladder. They pass from the gall-bladder into the intestine where many of them are destroyed. Their endotoxins lower the resistance of Peyer's patches and solitary lymph nodes so that the living bacilli gain entrance.

According to Ewing[17] the degenerative changes in the different organs are caused by bacterial toxins. These degenerative changes have, however, self-perpetuating tendencies; therefore typhoid fever is due to bacterial toxins and a peculiar auto-intoxication, the first being prominent early in the disease, the second later.

F. B. Mallory[18] believes that the essential pathologic change in typhoid fever is a proliferation of the endothelial cells of the reticular spaces of the spleen and lymph-glands due to the toxins of the bacilli. These large cells are phagocytic for red blood-cells, leukocytes and bacteria, and they break loose and float free in the blood-stream where they plug the capillaries of the lymph-glands, spleen and liver, causing complete necrosis of the first and a variety of focal necrosis in the third-named organ.

The presence of the bacilli in the blood has nothing to do with the severity or duration of the disease. Bacilli are present in long-continued as well as brief periods of fever. Typhoid bacilli are excreted from the body in several different ways, e. g., by the kidneys, mucous membrane of the lungs, liver and ulceration of Peyer's patches. Jurgens and Drigalski[5] found from a large number of autopsies the typhoid bacilli scarce or absent in the rectum and colon; a considerable number in the lower part of the ileum; in the upper ileum they were very numerous; in the jejunum they were exceedingly numerous and in the duodenum in almost pure culture. They also found bacilli in the mucous membrane of the stomach, esophagus and tongue. The chief mode of excretion then seems to be by the liver. There is as a result a chronic typhoid infection of the gall-bladder in 3 per cent. of all cases of typhoid fever. These are the so-called "bacilli-carriers." Eighty-five per cent. of "bacilli-carriers" are women. This number corresponds rather closely

6. Johns Hopkins Hosp. Rep., 1900. viii, 241.
7. Am. Jour. Med. Sc., February, pp. 240-241.
8. Centralbl. f. Bakteriol. Ref., xli, 229.
9. Kolle u. Wassermann: Handbuch Ergzungsb., i, 2; ii, 1.
10. Centralbl. f. Bakteriol. orig., 1908, xlvi, 221.
11. Verhandl. d. deutsch Gessellsch., 1907, p. 143.
12. Riv. d'ig e san. pubb., 1893.
13. Ann. de l'Inst. Pasteur.
14. Lancet, London, 1895, vol. ii.
15. München. med. Wchnschr., 1905.
16. Centralbl. f. Bakteriol. orig., Aug. 15, 1910, lv.
17. Proc. Path. Soc., Philadelphia, 1905.
18. Jour. Exper. Med., 1898, iii, 611-638.

to the total number of gall-stones in women. Agglutinated masses of bacilli have been found forming the nuclei of gall-stones by Chiari, Hirsh and Forster.[11]

J. W. Marchildon[19] found that typhoid bacilli were excreted in the urine in some cases on account of an infection of the prostate and seminal vesicles. Konjaajeffe[20] thinks that typhoid bacilli are never excreted by a normal kidney. Areas of necrosis in the kidney are due to plugging of the arterioles by clumps of bacilli. These foci often communicate with the tubules and thus bacilli get into the urine. The presence of the bacilli in the urine is also sometimes due to a typhoid ulceration of the bladder. Horton and Smith[21] and Connel.[22]

Bauman and Rimpan[23] examined the urine, feces, serum reaction and blood of six typhoid patients in the first and second weeks of the disease. The blood cultures were positive in all, the Widal in five, the feces in three, and the urine in none.

The Widal reaction is usually positive in 75 per cent. of cases at the end of the first week, in 90 per cent. in the second and in 95 per cent. in the third week. Kothe[24] does not believe that a positive Widal has the same significance as a positive blood culture, especially in the early part of the disease, for these results may be vitiated by a previous typhoid infection or a group agglutination.

Coleman and Buxton[4] tabulate 391 positive blood cultures with Widal tests. Ninety-four, or 24 per cent., gave negative Widal reactions. These negative Widal reactions may be explained in a number of ways. B. B. Gross[25] and a number of others have found that in some cases colon bacilli are agglutinated in higher dilutions by typhoid serum than the typhoid bacilli. According to Grunbey and Rolly typhoid serum agglutinated paratyphoid A and B in 79 per cent. of cases in a dilution of one to fifty and often in higher dilutions than the typhoid bacilli were agglutinated. Some strains of typhoid bacilli also agglutinate in higher dilutions than others. For this reason it is important to use more than one strain of typhoid bacilli and also the bacillus paratyphosis B in making Widal tests. Moreover, a serum reaction may be present for two or three days and then disappear. In obscure cases serum tests should be made every day for a week or more.

19. Am. Jour. Med. Sc., July, 1910, cxl, No. 4660, p. 741.
20. Centralbl. f. Bakteriol. ref., 1889, vi, 672. Quoted by Marchildon.
21. Lancet, London, 1909, p. 915.
22. Am. Jour. Med. Sc., May, 1909.
23. Centralbl. f. Bakteriol. orig., xlvii, 136.
24. Centralbl. f. Bakteriol. orig., 1910, lv, 402.
25. Centralbl. f. Bakteriol. orig., xlv, 519.

Blood cultures have taught us that typhoid fever is not an entity taken etiologically for it may be caused by any one of the several members of the intestinal group of bacilli. We would be more accurate to call it a typhoid symptom-complex.

With these conceptions of the bacteriology and pathology of typhoid fever we are able to devise a specific treatment.

Chantemesse reported to the Seventh French Medical Congress that with his antityphoid serum he had a mortality of 4 per cent. of all cases treated, while other cases not so treated have a mortality of 18 per cent.

During the Boer War there was a morbidity of one in 84.4 of those immunized with a vaccine of dead typhoid bacilli and a mortality of 17 per cent., while among those not so immunized there was a morbidity of one in forty with a mortality of 25 per cent. Wright's conclusions are that the mortality rates among those not immunized, 4 per cent., was greater than the morbidity rate, 3.73 per cent., among those immunized.

In the German Army of Southwest Africa the average per 1,000 was as follows:

Untreated Cases.	Treated Cases.
Morbidity..98.4%	Morbidity..50.4%
Mortality..12.6%	Mortality.. 3.3%

Kutscher has found that 2 to 4.3 per cent. of attendants in fever hospitals have typhoid by contact. He thinks this can be largely obviated by prophylactic injections.

CONCLUSIONS

1. Typhoid bacilli are present in the blood of every patient sick with the disease. They appear in the blood with the fever and disappear with the return of the temperature to normal.

2. Typhoid fever is not a true bacteremia, but is an overflow from the spleen, lymph-glands and bone-marrow.

3. The clinical symptoms of the disease are due to the invasion of the blood by the bacilli, their destruction there, and liberation of their endotoxins. These endotoxins cause degeneration of the body cells and the consequent pathologic physiology.

4. Convalescence and tissue repair begin as soon as the bacilli disappear from the blood.

5. Long-continued or chronic typhoid seems to be due to the persistence of the bacilli in the blood because of the low grade of immunity. Chronic typhoid can sometimes be cured by injecting killed typhoid bacilli; Russel.[26]

26. Mil. Surgeon, 1909.

6. Blood cultures seem to be the method by which we can make the earliest and most certain diagnosis of typhoid fever, for several reasons, e. g., because the bacilli may be in the feces without the patient having the disease; the bacilli appear in the urine rather late in the clinical course of the disease; the destruction of the bacilli in the blood stimulates the production of the agglutinins and other antityphoid immune substances and must, therefore, appear in the blood before the Widal reaction is positive.

DISCUSSION

Dr. B. W. Rhamy (Fort Wayne): Dr. Shimer is to be congratulated for his very excellent résumé of the work that has been done on blood cultures in typhoid. There is no doubt that this procedure is the best known method of diagnosticating typhoid in the very early stage. And it is therefore to be deplored that the method cannot be utilized except by those in close proximity to a laboratory. The clot culture mentioned by the essayist seems to offer a practical method for those who are at some distance from a laboratory, and no doubt could often be used to good advantage. This clot culture is made from the clot which forms in the glass capsules in general use for sending blood to a laboratory for the Widal test. It would only be necessary for the physician to draw a well-filled capsule of blood, seal the tips of the capsule in the flame and send to the laboratory with instructions to make the clot culture in case the Widal was negative.

There is some difference of opinion among investigators as to the amount of blood necessary for the culture test. Some men advocate small amounts, as from 0.5 to 1 c.c., while others, and perhaps the majority, advise the larger amounts of 5 to 10 or more c.c. The larger amounts drawn from a vein are no doubt best when the patient is near the laboratory, but when distant, then the blood could be taken in the glass capsule from an ordinary needle puncture of the skin, using proper aseptic precautions in both cases. It must be remembered that the reliability of the blood culture, as well as the Widal, depends to a considerable extent on the stage of the disease and also on the severity of the infection. Duffy (*Journal A. M. A.*, 1905) gave an excellent illustration in his series of cases.

In eighty-eight cases in which fifty-six had a temperature above 102, he got positive blood cultures in all fifty-six, while in twenty-three cases with a temperature of 100-101, he got positive blood cultures in only ten. This evidently depended on the severity of the blood invasion with its consequent liberation of endotoxins. The advantage of the blood culture over the Widal is in the fact that the blood in the first week contains the greatest number of bacilli, while the Widal does not show until these bacteria have stimulated the agglutinating power of the blood. Veil (*Deutsche medizinische Wochenschrift*, 1906) compares these two tests in his cases. In thirty-six cases, during the first week, blood cultures were positive in 78 per cent., while the Widal reacted in only 50 per cent. Out of 110 cases during the second week, the blood cultures were positive in only 60 per cent., while the Widal reacted in 92 per cent. During the third and fourth weeks the blood culture percentage steadily decreased, while the Widal percentage remained constant.

From these figures, which I believe are a fair representation of the possibilities of the two methods, it seems to me that the blood culture and the Widal should be used in conjunction, in any given case, thereby obtaining a greater percentage of accurate findings, than by the use of one to the exclusion of the other.

Dr. B. V. Caffee (Terre Haute): I want to ask the essayist one question in regard to culture media. As has just been said, away from the larger cities it is quite a hard matter to get culture media. About two years ago in our pathological society in Terre Haute we demonstrated a method of taking blood culture from a medium which can be obtained in any country village. It is entirely inexpensive, and according to the author of the article describing this method—whose name I have forgotten—is quite as good as bouillon. He takes the ox-gall from the freshly slaughtered beef, dissects out the bladder, tying the end of it with a ligature, then drawing off the gall into a test-tube and sterilizing it. By that method we demonstrated the typhoid bacteria in blood that came from the ear of a typhoid patient, and it was shown to be accurate. I have done that in two cases. These are the only two cases where I had occasion to use it, but I would like to ask the essayist in regard to that—what has been his experience? It seems to me that it is absolutely reliable, and that it would be an excellent thing where a person cannot get a culture medium, because it is very easy to get ox-gall and entirely without expense.

Another point in regard to infection of attendants in typhoid hospitals. A great change has occurred in the last twelve years. Twelve years ago I saw a demonstration of the infection of typhoid nurses. I was at that time steward in one of the Army hospitals in Porto Rico. We had two small regiments and a battery of artillery—less than 2,500 men. In August and September, 1898, we had in our one hospital 268 patients, the majority of whom were typhoid—some malaria and other diseases—but the majority were typhoid. Of the twenty hospital corps men who nursed these people, fifteen took typhoid fever. Three of the remaining five had had typhoid, and so were immune. We had no protection against flies, no screens, and our water

supply was very bad. But when you compare that with the conditions in hospitals to-day, the difference is as darkness from light.

Dr. G. W. McCaskey (Fort Wayne): The topic under discussion is one of extreme interest and very ably presented by the essayist. There are two or three points of a practical nature about which I would like to speak for two or three minutes.

I want to emphasize what I feel to be a fact, that the making of blood cultures is within easy reach of every general practitioner. The culture media can be obtained from Parke-Davis in small sealed tubes. I formerly used a tube which I devised myself, hermetically sealed, 50, 75 or 100 c.c. Recently I discovered a small one with a screw cap, and wrote Parke-Davis that I wanted a tube just like that one, containing 20 c.c., only I wanted one containing 30 c.c., and I got it and am using it right along. They can be used by anyone; they can be kept in your office for one year; you do not need a laboratory. It is a specially prepared screw cap tube.

In regard to getting the culture, all you want is a syringe. Sterilize your own hands and the arm of the patient, insert the needle, and withdraw a syringeful of blood. It is a very simple procedure. Then send it to the laboratory. This places the blood culture method within reach of the general practitioner.

In regard to the quantity of blood to be used, I think the larger quantity is better. I use an ordinary hypodermic syringeful. Once in a while I fail where I ought to succeed.

Every physician, general practitioner or otherwise, ought to use blood cultures in these cases; they are within easy reach. I have a case now which I think is very interesting. The patient was taken sick five or six weeks ago suddenly, with severe intestinal pain, diarrhea and a temperature of 102, irregular fever. In a few weeks the fever practically disappeared, but the hemorrhage kept up, with severe pain in the sigmoid. She was gradually going downward, but the temperature was normal. They brought her to the hospital and I thought perhaps I had tuberculosis to deal with. I submitted some blood to Dr. Rhamy, and he reported a positive Widal. In the meantime the blood culture was developing, and I submitted that to Dr. Rhamy, and he found the infection and along with it the bacilli. This patient was at once placed on autogenous vaccine, and improvement followed; the temperature perfectly normal; pulse perhaps 85, and the patient is apparently convalescing. This is undoubtedly a case where the typhoid ulcers were very deep and did not heal after the temperature got back to normal.

In cases of this sort I think we are under obligation. We do not discharge our duty to our patient if we do not use this method and secure blood cultures. I do not feel I am discharging my full duty to my patient—I think they are entitled to this treatment. The autogenous vaccine happens to be the one which gives us results. I am not advertising this as a fad; I would not undo anything because I use autogenous vaccine that I do otherwise.

So I think this subject that the doctor has presented is one of general practical interest. I attach the greatest importance to these methods, and I use them constantly.

Dr. Frank B. Wynn (Indianapolis): One of the commonest and most perplexing situations confronting the general practitioner is to determine in the early course of a fever whether he is dealing with typhoid or not. We are pressed by the friends and relatives of the patient, who ask "Is this typhoid fever?" The young practitioner or the thoughtless physician sometimes makes a guess and says "yes" in the first few days, and later finds the fever disappearing, when he is obliged to retract his early diagnosis. While modern laboratory methods have been good, we have in blood cultures certainly the best means so far discovered of early diagnosis. In some of the cases reported by the doctor, a diagnosis was made as early as the third day. The Widal reaction has been a help to us in this particular, but blood culture goes a step farther and gives us still earlier diagnosis of the disease.

There is one thing I think many of us fail to realize, namely, that typhoid fever is not simply a disease of the intestines, but of various organs, notably the lymph-glands, bone-marrow and the spleen; in other words, the blood-making organs of the body. One of the important lessons taught by blood cultures is that the organisms may attack almost any part of the body. I have a case now in which the parotid gland is infected. Sometimes the tonsils are involved. Indeed, some claim this is the point of first infection; but I still think that the intestine is probably the primary seat of infection—not the tonsils.

The great advantages of the blood cultures are: first, early diagnosis; second, it gives us an idea of the general dissemination, the widespread potency of the disease, and in the third place, it seems to me these cultural studies will be of immense practical benefit to us in differential diagnosis. You have cases every now and then, where after a week you are in doubt; two weeks, and you are still in doubt. Cases which are at first thought to be typhoid fever are after all something else. It does seem to me that blood-culture tests will enable us to make definite diagnosis in those cases.

Let me give an illustration of a case which came under my observation in which during the first five days the patient was delirious, with ordinary clinical picture of typhoid minus the eruption on the abdomen. The question was, Had he typhoid? The blood cultures showed a growth that was so extreme that it was thought

there must be some contamination of the medium. The blood was drawn again, and the second test showed that this man did not have typhoid fever at all, but was suffering from a streptococcus meningitis.

It seems to me that there are some difficulties in the way of the general application of this method of diagnosis that I hope the laboratories will be able to relieve us from. In the first place, the necessity of securing a considerable amount of blood. It is simple enough to secure a droplet of blood from the finger for a slide; but obtaining 5 c.c. to 20 c.c. is a different matter, and patients will hesitate before submitting to that sort of procedure. It seems to me there ought to be some way whereby it will not be necessary to resort to an operation—for it amounts to almost an operation—to obtain blood sufficient for cultural study. Still greater simplicity is a desideratum.

I am delighted to know that laboratory men are making progress in this direction.

We have been educated in the matter of the Widal reaction, and hardly anyone fails to take advantage of it; and now it is only a question of a few years until we will apply this method just as frequently, and blood cultures will give us early and definite diagnosis.

Dr. Schmauss (Alexandria): I wish to compliment the essayist on his excellent scientific paper. One point for discussion is the statement that we may have clinical typhoid without intestinal infection. How do we know that? I have not seen a case of typhoid in which there was not present extensive ulcers of the intestinal tract. I have never seen anything diagnosed as typhoid without involving the intestinal tract.

The statement made by Dr. Wynn that in typhoid we have an involvement of the whole body is of course true, but I would hate to have the idea get out that typhoid is not a disease of the intestinal canal primarily, and from that involving the entire system, the same as other diseases. We would not claim that pneumonia is not a disease of the lungs, or meningitis is not a disease of the brain, because we find the humor in other parts of the body. Therefore, I think we can safely say that typhoid is a disease of the intestinal tract, and *primarily* a disease of the intestinal tract. It has also been said that even in healthy persons we find typhoid bacilli present. Why not? Just as we find diphtheria germs in the throat without diphtheria. But we do not get typhoid unless the ulcer takes place in the intestinal tract.

Another point: it is claimed by some that the tonsils are the primary seat of infection. If this keeps on we will find the tonsils held responsible for every ill of the body. There is no doubt but that many of our systemic diseases find their seat in the tonsils, but I think it is too far fetched to say that the tonsils are the seat of typhoid fever.

As to antitoxin, it is stated that the mortality has been reduced to 4 per cent. from 18 per cent. I have in mind an epidemic in a city, with 400 cases, in which the total mortality was 6 per cent. If these men had 18 per cent. it simply shows that there was misunderstanding or lack of care somewhere. There is no excuse for showing a mortality of 18 per cent., or anything above 10 per cent.

Dr. B. P. Weaver (Fort Wayne): I would like to ask the essayist how many cultures were made in those cases in which he got negative results in his cultures. It has been said that blood cultures of typhoid yield 100 per cent. positive results. If that is true, how are we to account for the various discrepancies that creep into the reports, where in a series of fifty-two there were 3 per cent. positive results? Of course the patients come under the doctor's care at various stages, and at the late stages you are not so apt to get positive cultures. I think if we get a negative result from our typhoid cultures once, the indication is plain that we should make another and another, if necessary. I have under my care at the present time a typhoid patient who came in rather late, and the blood culture proved negative, and the Widal made the same day proved negative. This was perhaps the tenth or twelfth day. The first Widal was after the ninth day. The third Widal proved positive —possibly the fifteenth or sixteenth day.

So I would make a plea for greater cooperation between the clinician and the laboratory man. If we have a case of clinical typhoid, even though we get a negative culture the first time, we should make another culture.

Dr. Bond (Richmond): I am unfortunate in not hearing this paper, although I know from the discussion probably some of the contents. The trouble is that we are so anxious to put ourselves right with the patient that we make a diagnosis the first time we see him, and we have trouble from this in the future. It is a mistake to make a positive diagnosis the first time you see a patient. Since the Widal reaction comes relatively late in the course of the disease, it makes it all the more necessary to be careful in the diagnosis. You can simply say this patient has fever of some sort. I think we do a great deal of harm to ourselves, to other practitioners, and to the patient himself, by making a diagnosis the first time we see a patient.

Some little time ago I saw a patient in consultation. A man had a little girl who came home from a school where they had had a good deal of typhoid, and the doctor took it for granted that she had typhoid fever. She had a temperature of 102, and she said she had some rose-colored spots on the abdomen. The patient kept going down for two or three weeks, and finally

the doctor found a little lump in one side of the abdomen. I had the case about six weeks after, and found a tubercular mass in that side of the abdomen, and the girl died of tubercular peritonitis. This doctor had committed himself to the family on typhoid fever before he had an opportunity to determine whether she had typhoid or not.

Dr. McCaskey and I are old friends, but we do not agree in all things. He is too anxious to use these serums, and has been for years. He is putting in autogenous serum, or Parke-Davis serum, which I do not think amounts to anything at all, and I think this is the consensus of opinion of the better men of this country, so far as I know. Autogenous serums are all right sometimes, but men tell me that they are not so much in favor now as a year ago.

(At this point Dr. McCaskey explained that he said autogenous vaccine).

Dr. Bond: If we all had the experience and ability of Dr. McCaskey, it would be all right; but for many of us it will mean all sorts of trouble in the course of a year.

Dr. Albert Sterne (Indianapolis): I want to call your attention to those cases which are not atypical, but which at the same time do not permit of accurate diagnosis except with the assistance of just such methods as the essayist has spoken of, namely, complete blood examination, cultures, Widal, etc. That is the kind of typhoid I see, and I do not see it so infrequently, either. That class of cases which begin with a marked mental aspect, which to all intents and purposes exhibit the symptoms of an ordinary depressant insanity; confusion, sometimes marked delirium, with evidences of brain agitation. I have seen these cases repeatedly, and have felt in the beginning myself that they were cases of ordinary infection, of probably a vague type. These cases are accompanied with peculiar depressing symptoms: very little fever, in fact almost no fever in the beginning; slight rise of temperature in the evening, but hardly more than in the normal state. All of these cases exhibit a marked confusion. It is not a delirium nor ordinary mania; it is an ideation which, while more rapid than normal, savors of the fixed rather than the rapid ideation which appears when there is inability to express an idea by word of mouth. In that class of cases I not infrequently test not only the blood, but also the spinal fluid.

In that class of cases I want to call your attention to the necessity of laboratory methods. A diagnosis is practically out of the question until these methods are brought into play, and further than that, you should suspect such conditions from the beginning.

I recall the case of a daughter of one of the professors in Indiana University. She was a student at the university, a charming, bright, young girl. She was brought to the sanitarium by her father and the doctor, and she exhibited just this class of symptoms. I believed it was typhoid fever. They scouted the idea—it could not be typhoid. I still maintained my position, and they maintained theirs. The blood findings were negative, as they are not infrequently in the first two or three weeks. In the meantime, before the blood findings became positive, I received a telegram from the father of the girl, saying I was right—her two brothers were down with typhoid fever.

I want to emphasize the point that the great mass of typhoid cases are atypical in their form, and the laboratory methods are the only means by which we can absolutely establish a diagnosis.

Dr. John C. Fretz (Deedsville): I simply rise to say a word for the man who has lost a large percentage of typhoid cases. One of the discussants made this statement, that it was inexcusable for a doctor to lose more than 10 per cent. of typhoid cases. I do not know any man who has lost 10 per cent., but if he does lose 10 per cent. or 12 per cent., I want to ask who has the right to draw the line in the percentage that a man may lose? I do not want an expression made in this society to go out over the state and let the laity get hold of it, that a man has no right to lose more than 10 per cent. of his typhoid patients. He has a right to lose all he cannot save.

Dr. A. P. Buchman (Fort Wayne): I was not fortunate enough to hear this paper, but I have heard enough of the discussion to indicate that I want to say something.

In diphtheria we have an absolute specific, and that specific is so harmless that in case it is a question if we have diphtheria, we do not do the patient any harm. In typhoid fever we have nothing of this sort.

It makes all the difference in the world what patient has typhoid fever. It is the individual patient that we have to look after, and the man who has a reasonable amount of experience and knows how to get the history of his case, can in seventy-five out of eighty cases make a diagnosis of typhoid fever that is reliable within from two to five days of the inception of the disease—if he watches the patient closely and watches the symptoms. The five cases that are left are the cases for which we need the laboratory; but the idea that you can by means of the laboratory make a diagnosis without symptoms and without a history of the cases—that idea is absolutely fallacious. The tendency is to laboratory mania. The Widal does not always occur within the same time. In some of the carefully watched cases the test did not show the disease. There was something wrong some place, for it did not pan out.

I feel very confident that the time is coming when these things will be reduced to that condition of simplicity and scientific correctness that they can be depended on more largely; but the

practice is in its infancy, and the man who talks about absolute certainty is wrong.

Dr. Shimer: I want to thank the discussants for their thorough consideration of the paper. It seems an old subject, this subject of typhoid, and yet I think it is one of the biggest problems we have in America—the control and eradication of typhoid fever. Robert Koch at his death was trying to solve this problem for Germany.

As to the culture media, any medium in which typhoid bacilli will grow is good to use. The main thing is that it must be absolutely sterile. You can use ox-gall, broth, anything. The Epstein medium is of special value because you can carry it in a small tube in your pocket. You do not need to take it to the laboratory for twelve or twenty-four hours, and the bacilli will grow in the solution.

As to taking the blood, the difficulties of this have been magnified considerably, because I know it is easy. I have done it time and again within five minutes. Dr. Simonds and I at the State Bacteriological Laboratory have very often drawn from our own veins 10 to 15 c.c. of blood, and never put any bandage on. It is the easiest thing in the world, especially in persons who are somewhat spare. Put the needle into one of the large veins of the elbow, and when you get enough just pull out your needle. It is as easy as a hypodermic injection.

I do not think it will be long before this is valuable for men in general practice far from laboratories. Accuracy is absolutely necessary. The main thing is accuracy, and the lack of it means contamination. Often surgeons, who know so much about asepsis, will bring you in fluid full of bacteria, and yet they think they have been extraordinarily aseptic.

I have studied the various facts of this paper from many references, which will be found in the paper when published.

A great many instances have been reported of discrepancies between positive and negative findings in blood cultures. You cannot take a small average and draw conclusions. You must have a large number of cases. Colemand and Buxton had pretty nearly 2,000 cases.

The German Army statistics, which show from 12 to 18 per cent. mortality, were the average of a large number of cases. You cannot draw conclusions from the experiences of a man in general practice or in a small hospital. You have to take, say, the Board of Health statistics, where you have the average of a very large number of cases. It is unfortunate that cultures are not used in the private and public hospitals all over this country, because they are easy, and because, as Dr. Wynn said, in a number of instances they will throw light on cases about which you would otherwise be entirely in the dark. In an immense number of ways blood cultures will give you splendid results.

There seems to be some misconception of the difference between serum and vaccine. I will say that a serum is a serum from an animal that has been inoculated with a specific bacterium, and a vaccine is the dead bacteria injected to produce immunity to that specific organism. We must keep in mind that they are entirely different and distinct.

I thank you.

THE PROBABLE DIRECTION OF THE PROGRESS OF GYNECOLOGY IN THE IMMEDIATE FUTURE *

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In the storm and stress of modern life it is an advantage in any field of effort to pause occasionally in order to estimate the progress already accomplished, to survey the present status, and to forecast the most likely achievements of the near future.

In gynecology the present condition is interesting. There is, in America, a rapidly growing appreciation of the wider grasp of the specialty. It now includes what the name correctly implies, a study of *all* the physiologic and pathologic phenomena peculiar to women. If the narrower conception of the name and the specialty prevalent in the past generation still persisted, this specialty would be deservedly doomed to extinction in the next few years. But with the broader field that it properly covers, it must always remain one of the great divisions of medical practice and research.

There is gratifying evidence that we have awakened to the true significance of this fact in the establishment of a combined hospital in connection with the Sloane Maternity of New York, to treat all the conditions peculiar to women in one institution under one head—the professor of obstetrics of Columbia University; in the magnificent project about to be realized in Pittsburg by the Magee foundation, of a great Frauen Klinik for child-bearing women and the treatment of their diseases, under one director, the professor of obstetrics in the University of Pittsburg; in the amalgamation in Harvard of the department of diseases of women and of obstetrics under the direction of the professor of obstetrics; in the like action of Rush Medical College and other medical schools of the country. The extension of this movement, with its concentration and correlation of clinical material, will

* Read at the annual meeting of the Indiana State Medical Association at Fort Wayne, Sept. 29, 1910.

be the most marked feature of the future progress of gynecology in America. The older type of gynecologist, informed of only certain phases and of only certain parts of his subject, will disappear, to be replaced by a much broader, a much more experienced, a much better advised specialist, the foundation of whose knowledge and experience shall be a study of the child-bearing process, in connection with which practically all the diseases of women must be considered. The movement in this direction here is in accord with that of the rest of the civilized world. Our progress has been tardy on account of lack of proper hospital facilities; but this disadvantage is being overcome and the example already cited of New York and Pittsburg will be followed all over the country. So much for the general change which is vitally influencing the direction of progress.

Coming now to particulars: I should say that the problems most pressingly presenting themselves for solution in the wide range of gynecology are the earlier diagnosis and the more successful treatment of the two toxemias of pregnancy; a stricter limitation of puerperal infection and improvement in its treatment; the extension of the indication for Cesarean section; the earlier recognition and more complete removal of cancer of the uterus; the wider recognition of the necessity of removing fibromyoma of the uterus; the restriction of the social evil with its attendant infections and ensuing sterility, and the more successful treatment of the various causes of sterility.

In the time alloted to me it is obviously impossible to deal with each of these subjects *in extenso*. I can only indulge in certain hints, reflections and suggestions based partly on personal experience, partly on what foresight I may happen to possess.

There is a great and urgent need for improvement in the treatment of the toxemias of pregnancy. Using round numbers, if there are 90,000,000 people in this country and the birth-rate is twenty-five per thousand, 2,250,000 children are born every year. Of the mothers, one in 300 develops eclampsia, or 7,500. Of this number a third die, or 2,500. When one considers that the earliest possible diagnosis of the toxemia of the latter half of pregnancy and its appropriate treatment will prevent eclampsia, and that the death-rate of the latter, when it does develop, should only be one-third what it is in general practice, it may be realized what an appalling loss of valuable lives must be deplored at present, and what an immense economic and humanitarian gain the future has in store for us in this one particular. The observation of blood-pressure, the avoidance of *accouchement forcé* the more systematic and thorough use of sweating are among the things that the general physician of the future must consider if he is to keep pace with progress in the treatment of this disease. In the toxemia of earlier pregnancy, manifested in its worst form by pernicious vomiting, the greatest hope lies in utilizing the blood serum from a healthy pregnant woman who has spontaneously recovered from the physiologic vomiting of pregnancy and whose blood contains an antibody to the products of the syncytial cells.

Aseptic technic in general obstetrical practice is not yet as perfect as it ought to be, and the curative treatment of infection is by no means perfectly understood. For example, the surgical treatment in cases amenable to that treatment and inevitably fatal without it, has converted in my hospital services a death-rate of 100 per cent. twenty years ago to a recovery rate of 90 per cent. The early and liberal use of antistreptococcic serum will reduce the mortality of blood infections without localization.

The improved technic of Cesarean section yields such excellent results that the high forceps operation in contracted pelvis or for other indications must be less frequently employed. In the ninety-nine Cesarean sections performed by myself the only deaths have been in women coming into the hospital already infected. A deliberate operation of election should have no mortality in skilled hands.

Cancer of the uterus will be a baffling problem for years to come, as the women themselves can with difficulty be taught the sinister significance of metrorrhagia in middle life. But a campaign of education among the laity will effect improvement in time.

To Dr. Charles P. Noble this country owes a debt of gratitude for pointing out forcibly and clearly, although with a somewhat exaggerated partisan zeal, the dangers of fibromyomata and the advantages of their comparatively early removal. This knowledge is also coincident with an extraordinary improvement in the technic of hysterectomy and myomectomy, promising an almost uniform recovery rate. Hundreds of lives will be saved in the next twenty years by the timely removal of these growths.

We cannot expect to change the moral and spiritual nature of man by legislation over night, but no one can fail to appreciate a general elevation of moral sentiment with each successive generation. Contrast Tom Jones or Roderick Random with the Newcomes and David Copper-

field; or the private lives of Washington and Hamilton with those of McKinley and Roosevelt, for an index of progress in a hundred years. Who can doubt that this progress will continue, and at an accelerated pace?

Sterility, either absolute or relative, that is, diminished fecundity, will apparently be a distinguishing feature of the most highly civilized portion of the human race in the future. It is a fascinating because a complex and difficult task to inquire into the causes of this curious fact. With many phases of the subject we physicians are powerless to contend. It is a sociologic, developmental, economic movement of irresistible force. But many individuals will be involved in it against their will. And the number of patients pathetically seeking a gratification of their longing for maternity will increase, if I may judge from the increase of such patients in my own practice during the past twenty-five years. One factor must be considered by the physician in charge of such cases: the lack of development in the sexual organs of women apparently associated with the overstrain of the nervous system inseparable from the complexity of modern life. Two therapeutic agents must be employed with increasing frequency: the electrical stimulation of the uterus and the use of a more perfect and permanent dilator of the cervix, such as the metranoicter.

These are the desultory and fragmentary thoughts inspired by this interesting subject. Whether they are correct or not, it is exhilerating to know that progress is certain and that our successors will have at their command far more effective weapons in their combat with disease and death than we now possess.

DIFFERENTIAL DIAGNOSIS OF LABYRINTHINE SUPPURATION AND CEREBELLAR ABSCESS *

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The observations herein advanced are the result of the study of Neuman's work on cerebellar abscess and my own personal observation of the work of Bárány at the General Hospital in Vienna, on nystagmus and its value as a diagnostic factor in labyrinthine and cerebellar diseases.

A year ago, my colleague, Dr. Page, presented a young woman before this society and gave a practical demonstration of induced nystagmus, by irrigating the ear with cold water. I propose in this paper to go a little deeper into the discussion of nystagmus, hoping thereby to call the attention of this society to this very important symptom in the differentiation of labyrinthine and intracranial lesions.

If they prove true in the light of future experimentations, the investigations of Bárány will have marked a practical advance in neurology and otology.

Fortunately, suppuration of the labyrinth is an infrequent disease which, however, has probably occurred more frequently than we anticipate, having been overlooked by the otologist. Suppuration of the labyrinth is of no more especial interest to the otologist than to the general practitioner. However, the surgery of the labyrinth belongs exclusively to the otologist and is of particular interest to him. The symptomatology and diagnosis are important to every physician and surgeon.

Symptoms primarily belonging to the labyrinth have too often been ignored or attributed to intracranial lesions or to some general disorder. Dizziness, vertigo or giddiness, generally considered synonymous terms, may or may not be associated with nystagmus. By dizziness or giddiness we mean a subjective sensation on the part of the patient, of moving about an axis in some special direction in space, but as you know, the patient may or may not move, and objects instead of the patient may seem to move. All this may or may not be due to nystagmus.

If we may be pardoned for discussing this feature of the subject in a general way, vertigo may be an acquired or induced disorder, and may be subjective or objective. Turning in space or swaying up and down may be only apparent or real. Vertigo is solely a symptom and may be induced by organic brain disease, hemorrhage, blow on the head, rapid revolution of the body, sudden change in elevation, looking from unusual heights, ocular muscle incoordination, disease of the stomach, kidney, liver, heart or circulatory system, disease of the middle ear or Eustachian tube, tonic or clonic spasm of the tensor tympani or stapedius muscles, which sometimes occurs when the patient is falling asleep, disease of the internal ear, and sometimes irritation or disease in the external auditory canal, senile arterial change, anemia, etc. Vertigo is frequently a preliminary aura in epilepsy, following a spontaneous motor discharge, which directly or indirectly affects the centers of equili-

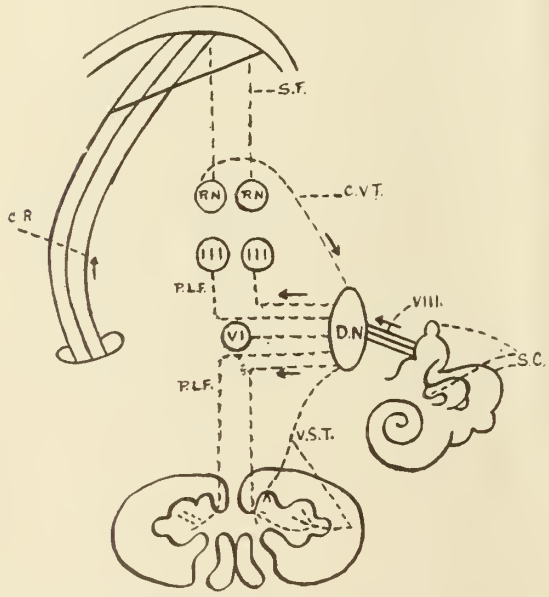
* Read at the Fort Wayne meeting of the Indiana State Medical Society, Sept. 30, 1910.

bration. One side of the body is more affected than the other and general incoordination results and the patient falls or has the sensation of falling. In the vast majority of cases of vertigo, there is a movement of the eyes, though this is not perceptible to the observer.

I now have one case under observation in which the radical mastoid operation has been performed, and by making pressure over the horizontal canal with a cotton-tipped probe, vertigo with nystagmus to the irritated side is produced.

In all the conditions enumerated, the vertigo as a rule is due to some disturbance in the semicircular canals or center of equilibration, either directly or indirectly.

Sea-sickness and train-sickness are forms of vertigo which are probably due to disturbance of



Scheme of connection of Deiter's nucleus. Copied from Bruce and Eagleton (Archives of Otology). D.N., Deiter's nucleus; VIII, eighth nerve; S.C., semicircular canals; VI, sixth nerve; R.N., red nucleus; C.V.T., cortical vestibular tract; V.S.T., spinal vestibular tract.

the fluids in the semicircular canals, produced by the swaying movement of the vessel or train and the rapid movement of objects, reflexly affecting the vagus nerve and sometimes producing vomiting and disturbances in the sympathetic system. Land-sickness is a reverse condition to sea-sickness, and is probably a disturbance in the center of equilibration incident to the readjustment of the centers of equilibration and sympathetic system to an unmovable surface. In these conditions vision and general disorders may aggravate the sickness.

Before entering into a discussion of vertigo, especially that resulting from internal ear disease, I should like to briefly consider the function of the internal ear in relation to the equilibrium of the body.

The internal ear is composed of the cochlea, the vestibule and the semicircular canals. The auditory nerve is composed of two divisions, that of audition which has its peripheral ending in the organ of Corti, and the nerve of equilibration, or the vestibular nerve, which has its ending in the vestibule and semicircular canals. The portion of the nerve going to the utriculus and sacculus ends at the macula of the saccule and the macula of the utricle, and this portion of the nerve is presumed to give us a conception of our position in space. The portion of the nerve going to the semicircular canals ends at the ampullæ of the canals and with other coordinate sense centers, controls the equilibrium of the body. The ampulla of the horizontal semicircular canal is situated anteriorly; that of the superior canal at the anterior segment of the canal, above and anterior to the horizontal canal; that of the posterior semicircular canal inferiorly and at the most dependent portion of the canal. Under certain conditions, stimulation of the neuroepithelium of the ampullæ will cause a disturbance in the plane of the canal involved. Thus the patient may revolve, as it were, on a horizontal axis, turning backward or forward. Irritation of the ampulla of the horizontal canal causes dizziness to the right or left. Physiologists state that the movement of the endolymph to the ampulla stimulates the cristæ, producing impulses which are carried to the brain, and the individual with other coordinate motor and sensory sensations is unable to maintain his position in space. Thus some sudden shock in the path of auditory impressions may bring about a temporary incoordination of movement, producing dizziness or giddiness. This shock may be in the labyrinth or in the nuclei of Deiters, which is situated in the superior vermis of the cerebellum. There are also certain fibers going from Deiters' nuclei to the sensory nuclei of other cranial nerves, the lingual, vagus, motor oculi and glossopharyngeal. Motor and sensory nerves are so correlated that it is reasonable to presume that they are likewise connected or influenced directly by fibers from Deiters' nuclei.

Percy Friedenberg aptly says: "The most extreme disturbances of vision alone, of body position alone, of audition alone, or of tactile sense alone, may fail to cause confusion in our sense of direction, balance and space. It is only when there is real or apparent incompatibility or lack of correspondence and harmony of one set of concepts with those from another sensory

organ that confusion, subjective or objective, results, which we term respectively dizziness, or loss of balance."

Nystagmus is an oscillating movement of the eyeballs. It may be undulating, where both movements are equal in time and extent, as observed in albinos and those with congenital opacity of the cornea, and rhythmical, in which there is a slow and a quick movement. It is this last form of nystagmus which is observed in internal ear or cerebellar disease.

Induced or spontaneous nystagmus, rhythmic in character, will be an aid in the positive diagnosis of the location of the lesion. Rhythmic nystagmus is composed of two distinct movements in the same plane, one short and the other long. If the short movement is to the right, the nystagmus is designated to the right, and if to the left, the nystagmus is to the left. If the patient turns his eyes in the direction of the quick component, the nystagmus will be increased, and if directed to the long component, it will be slow or lost altogether.

There are four forms of nystagmus, horizontal, rotary, vertical and oblique. Ewald, of Strassburg, was one of the first investigators to demonstrate the effect of irritation of the semicircular canals, on the eye muscles. His experiences on the semicircular canals of pigeons are well known to students of physiology and those who are especially interested in otologic literature. He found that by stimulating the ampullæ of the semicircular canals by causing the endolymph to flow to or from the nerve endings, nystagmus resulted, varying according to the canal irritated.

Bárány, of Vienna, has further elucidated the subject and has formulated certain rules for the stimulation of the endolymph as well as the interpretation of the results.

The two important tests of nystagmus are the rotation and the caloric tests. In the rotary test (and this is used in the case of young children) the patient is seated in a revolving chair with feet off the floor. The eyes are protected by smoked glasses to prevent the patient fixing the surrounding objects, the patient is revolved about ten times in twenty seconds, and as soon as the rotations are stopped, the nystagmus will be to the left, if the revolutions have been to the right, and the labyrinth is intact and the cerebellum normal.

In the caloric test, the ear is syringed with very cold or very hot water. Since it is impossible to use water hot enough without irritating the patient, cold water is preferable, and this should be at a temperature of 50 to 60 F. The patient may be seated or in bed. The stream of water is directed into the canal against the drum membrane from a fountain syringe. The patient should direct the eyes slightly upward and toward the side in which we expect the nystagmus. In a sensitive labyrinth, however, looking forward and upward will be quite sufficient. After a few moments the patient becomes uneasy and makes an effort to close the eyes. Inspection now discloses the rhythmical movement of the eyeballs. Normally, the short and quick movements will be to the opposite side and the long movement to the irrigated side, continuing for about forty seconds. The patient may now become cyanotic, very nervous, and may vomit, and if seated, may fall from the chair, to the opposite side.

Presuming now that the diseased ear is irrigated with cold water and the quick movements of the eye are to the opposite side, the natural presumption is that the labyrinth is normal. If the short movement is to the side irrigated, the presumption is that there is a circumscribed suppuration in the horizontal canal which will probably require operation. If the nystagmus is to the diseased side, there may possibly be a complete destruction of the labyrinth and disease of the cerebellum, for it has been demonstrated that when nystagmus persists after the complete destruction of the labyrinth by operation, disease of the cerebellum is present.

Sometimes in lesions of the brain, encephalitis or meningitis, an over-sensitive labyrinth is encountered, and as soon as the cold water strikes the tympanic membrane or outer wall of the internal ear, nystagmus to the opposite side occurs which is profound and is accompanied by vomiting and severe dizziness.

Sometimes labyrinthine suppuration and cerebellar abscess can only be differentiated by the removal of the canals after which the caloric test is applied.

The important symptom of labyrinthine suppuration is dizziness. However, in some cases the suppuration is so very slow in character that the patient is enabled to gradually readjust his equilibrium. In other cases the dizziness is profound and the patient inclines to the diseased side in walking, especially if the horizontal canal is affected, and suffers from vomiting and nausea.

I recall one case of non-suppurative inflammation of the ear in which the patient would fall forward on her face whenever she started to move, unless she ran quickly toward some object for support. An attendant was always required to protect this patient.

It is to be remembered that in destruction of the labyrinth, the spontaneous nystagmus is to

the well side, and has a tendency to disappear, whereas a spontaneous nystagmus from cerebellar disease, such as abscess, is to the affected side and has a tendency to increase in severity. In suppuration of the labyrinth, turning the head backward, to the side, or forward, may produce nystagmus, whereas in cerebellar abscess no nystagmus will be produced by sudden inclination of the head. It should be remembered that dizziness and nystagmus which are induced by quickly changing the position are always associated with internal ear disease and are not due to a general or central disease.

The natural presumption to be drawn from this paper is that suppuration of the brain is more frequently due to suppuration of the ear, either acute or chronic. Suppuration of the labyrinth is more often due to extension of infection through the oval or rotund window, or necrosis of the horizontal canal.

The conclusions of Neumann are as follows:

"It therefore follows, if it is allowable to draw any conclusion from the certainly small number of cases, that in the acute cases labyrinthine suppuration plays no rôle in the origination of cerebellar abscess, but that the latter is set up either through the instrumentality of a sinus phlebitis or an extradural abscess of the posterior fossa.

"An entirely different picture is presented by the chronic cases, in the majority of which the cerebellar abscess is of labyrinthine origin." and the path of conduction is more often the aqueductus vestibuli.

To recapitulate the symptoms of circumscribed suppuration of the labyrinth, we have acute or chronic suppuration of the middle ear, deafness, pain in the ear, variations in temperature, giddiness, disturbances in locomotion, sometimes facial paralysis, with marked probability of meningitis or abscess of the brain, or sinus thrombosis.

In cerebellar abscess from internal ear suppuration, and they are usually associated, we have pain in the occiput or forehead, hemiparesis on the affected side, spontaneous nystagmus sometimes to the affected side, tendency of the patient to lie on the diseased side, disturbance of speech of a bulbar character, stiffness of the neck muscles on the affected side, the patient will support the head whenever any movement is necessary, nausea, vomiting, and in extreme cases convulsions, muscular depression of the abdomen, Cheyne-Stokes respiration, and delirium. The nystagmus, either spontaneous or induced, will be to the side of the lesion. Differential diagnosis of course must be made between temporal lobe abscess, meningitis, and sinus thrombosis. This may require surgical exploration, which should be advocated.

In the 196 cases reported by Neumann, 25.98 per cent. were cured.

226 Newton Claypool Building.

DISCUSSION

George W. Spohn, Elkhart: I did not understand that Dr. Kyle's subject would include cerebellar abscess also, more particularly referring to the abscess of the central fossa. If you make a differential diagnosis, I want to say it could be differentiated a little more closely and accurately than was given here.

I hold there would be no abscess of either brain without a discharging ear—a chronic discharging ear. The essayist mentioned chronic suppuration of the left ear. It is very, very rarely that you ever get an abscess of the brain from acute suppuration of the ear, but almost uniformly from a chronic discharging ear. There is a way of getting at that that almost anybody can tell whether the abscess is in the middle fossa or the posterior possa.

I will not go over the nystagmus test given in the paper; it is so long and so much of it.

Whenever we have a labyrinth affected in any way, there is nearly always a nausea and dizziness. You take the case that was mentioned there, after a radical operation, and every time the doctor reached in and pressed on the semicircular canal, nausea and dizziness were produced. There was a fistula there. That was a case where there was a fistulous opening into the membranous labyrinth. Where we get a fistula from a bony condition and not from a membranous condition, we do not have a suppurating labyrinthitis; you would get a serous labyrinthitis. But where we get a dizziness and nausea, there we have an infection of the labyrinth. These symptoms will last from two to six days, but generally only three to four days, and of course no one can operate while the acute condition exists. Now, after we do a regular labyrinthine operation, that would stop it. Very seldom do we get a brain abscess following labyrinthitis. We can have it, but not generally. An abscess of the cerebellum goes almost directly to the sinus or posterior fossa. To differentiate between the two: when we get stiffness of the neck, a discharging ear, no dizziness, no nausea, that will eliminate the labyrinth. If we get stiff neck and soreness right over the cerebellum, you can almost always depend on it it is an abscess of the cerebellum, and I believe anyone can make a diagnosis right early. A stiff neck points almost directly to the cerebellum or the posterior fascia.

Very few of these cases of acute middle ear suppuration end in abscess of the brain.

ENDOTHELIOMATOUS CYST OF THE OMENTUM: CASE REPORT

Maynard A. Austin, M.D.
Anderson, Ind

In September, 1909, I was called in consultation to see a patient of Dr. Newlin's, of this city, a Mrs. W., aged 42, married and with four children. Enlargement of her abdomen had been noticeable for eight months. Enlargement was not accompanied by any unusual sign or symptoms except a protracted and excessive disturbance of menstruation. An examination showed the womb to be enlarged and pushed down to the bottom of the pelvis, not apparently fixed there, but wedged in place. The abdominal tumor was firm but not solid. The skin over the swelling was stretched tightly and appeared to be 10 or 12 inches in diameter. It occupied the mid-line of the abdomen, and extended to the symphysis and a probable diagnosis of ovarian cyst was made. An examination of the uterus showed a marked endometritis, cervical and corporal.

Laparotomy was advised and when performed a week later, a cystic tumor presented itself in the mid-line. On aspiration through a small opening, a clear fluid was drained off, to the extent of 14 pints. As the fluid escaped, the sac was delivered through a small opening and when the pedicle was expected to be delivered, the great omentum was pulled from the wound. An examination showed the covering of the tumor to be a peritoneal investment of the great omentum, and a small incision at the base of the sac permitted the cyst to be shelled out from the two layers with the greatest ease. The small cut in the omentum was closed with cat gut, and the laparotomy was succeeded by a curettement, the patient making an uneventful recovery. The menstrual disturbance, however, continued to be excessive in frequency and duration after she returned home.

In February I was again called in consultation to see the woman, whom the attending physician stated had been in a very serious condition for two weeks. Not only was she suffering from a menorrhagia, but this had been accompanied by an attack of rheumatism, supplemented by bleeding from the kidneys, and two severe hemorrhages from the stomach. On my seeing her for the second time, she had a temperature of 102, no swelling of the joints, but over the limbs and body were a large number of spots, showing a purpuric condition, a combination that led me to make a diagnosis of peliosis rheumatica. Inasmuch as it was accompanied by hematuria and hematemesis, it belongs to that class spoken of as Henoch's purpura. The administration of ergot and the salicylates was followed by a fairly rapid recovery, and, with the disappearance of the apparent acute symptoms, the menstrual disturbance became less marked, and for the first time in several years appeared normal. The patient was advised to continue the treatment at intervals, and, so far as I can learn, has continued to be in very fair health ever since.

The occurrence of an omental cyst is so exceptional that only thirty-six cases have been reported in medical literature. Henoch's purpura is not so rare as this, but its occurrence is in itself worthy of reporting. The coincidence

of these two conditions in the same patient is probably unparalleled. A short review of the literature on omental cyst is given as follows:

Rufus Fort, *Annals of Surgery*, March, 1907, reported a case in a girl 2½ years old. The fluid removed was bloody in consequence of an aspiration five days previous to laparotomy. He reviewed twenty-one cases, and stated that no case had been reported in which an accurate diagnosis had been made. Hasbrouck included Fort's report in the *Annals of Surgery*, August, 1908, and found thirty-four cases reported, but he divided the cysts into two classes, those attached to the omentum and those arising from within the cavity of the omentum, to which latter class my case belongs. Subsequently Dr. Rodman of Philadelphia, reported a case in the *Annals of Surgery* for March, 1909, the patient being a girl seventeen years old, and the condition being diagnosed as a pancreatic cyst. Seefisch, in the *Deutsche Medizinische Wochenschrift*, Oct., 14, 1909, reports a case of cyst attached to the great omentum by a pedicle the size of a lead pencil. According to

Hasbronck's classification of external and internal cysts, my case is the thirty-seventh to be reported; twenty-one of these being true cysts within the cavity of the omentum, including Rodman's and my own case, and sixteen external cysts, including Seefische's case in a boy of four years. There is nothing in a review of the cases to show any congenital tendency, since as many cases occurred in adults as in children.

A photograph of the tumor removed is reproduced. The cyst is filled partly with water, and shows in part the size, the aspiration opening being closed with artery forceps. The specimen was sent to the Indiana University Laboratory, and is in the museum now.

THE HYGIENE OF MENSTRUATION*

Jane M. Ketcham, M.D.
INDIANAPOLIS

This is a day of preventive medicine, a time in which the avoidance of disease is of more importance than the healing of the same. The subject of menstrual hygiene is one which has never seemed of great value; at least it has received but the scantest attention from the medical press, and it is a subject which is in the minds of both the profession and the lay public bound up with old-wives' fables and fairy tales. The major premise of this paper is: that healthy women should be able to follow their usual walk in life during their periods of menstruation, and that if they are not so capacitated they are not healthy women.

This is not the usual attitude. The general impression is that a woman can hardly expect but that she will suffer during the time of her menstruation, and that she must expect and prepare for such invalidism. The following quotation expresses the popular thought on this subject:

"For four days out of every twenty-eight every woman, irrespective of whether she suffers or not, is incapacitated for any responsible action, either mental or physical."

This is prehistoric; it is ridiculous; it is more. It is a great wrong to hamper women with any such false conception.

Were this statement true, such a state of retrogression in the mothers of the race would indeed be a matter of great economic importance, and if it is not true, then this theory that all women require a monthly recurring siege of invalidism should be exploded. In order to prove this position I have sent out a list of questions and I present the results here.

In order to get a general response the questions were sent to women of widely varying occupations and ages. They are as follows: school girls, aged 10 to 20; college girls, aged 16 to 35; factory girls, aged 16 to 25; clerks in stores—those whose work requires them to stand—aged 20 to 40; clerks, stenographers, etc., whose work may be performed while seated, aged 20 to 40; school teachers whose work is largely intellectual, aged 20 to 40; women who operate power machines, aged 25 to 45; domestics, nurses, house-keepers, women who have no children, and those who have had from one to five living children.

The questions were: At what age did you begin to menstruate? Did you menstruate regularly from the beginning; or, if not, at what time did you become regular? Was menstruation painful in the beginning; or, if not, when did it commence to be painful? State if any definite time could be given for the onset of the pain. Was the pain of a definite and regular character, or did it vary from time to time? If pain was of a definite and regular character did it appear before or after the establishment of the flow, and how long did it last? Are you in the habit of resting at each menstrual epoch, and if so when do you rest, and for how long? Do you consider such rest necessary for the maintenance of perfect health, or do you rest because you are compelled to? If not in the habit of resting at this time are you accustomed to pursue your vocation as usual at this time?

In giving the answers to these questions the aim has been to take the average response in order to make the result general. The calculation has been made on a basis of 200 responses.

As to the age of beginning menstruation, there is one case which began at 9 years of age, 10 per cent. at 11 years, 50 per cent. at 12, and from thence gradually decreasing until the oldest is 19 years of age. In the large majority of cases menses were attended with little or no pain at the onset, although the periods did not become regular until from one to five years. In a very few cases there was a decided nervous irritability and excitement at this time. In about 5 per cent. of these cases there was preceding the flow nausea and vomiting varying in severity and lasting from one to four hours. In many cases this was accompanied by acute pain shooting down the thigh which kept up until the flow was established. Many of these women kept up a monthly record of this kind until their first pregnancy spontaneously relieved them. Such cases do not come within the bounds of this paper, for acute pain recurring regularly is in itself an indication of a pathologic condition. In the majority of cases in young girls pain was either slight or entirely absent.

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* Read at the Ft. Wayne meeting of the Indiana State Medical Society, Sept. 30, 1910.

In factory girls and clerks, required to stand all day, the condition was more generally one of exhaustion, and although there were many cases of acute pain for a few hours the condition of the great majority of girls is best described as a general malaise and unfitness for work because of a worn-out, tired feeling. Many of these women who stand all day start the day fairly well, but before many hours have elapsed develop general headaches of more or less severity.

As to older women, from 25 to 40, the school teachers, whose work allows them their own option as to whether they shall stand or sit, in the earlier years of their menstrual history they had either had no pain or else it was comparatively slight and unimportant; but, as the years had gone on the unrelieved menses had become increasingly painful, and in many cases was of such severity that all thought of work had to be given up and complete rest inaugurated.

As to the women who had borne children the majority of them suffered but slight inconvenience, the general complaint being that they had a sense of uneasiness which could not be dignified by the name of pain, and which only in rare instances was of sufficient severity to interfere with work.

The question: "Do you follow your regular work at this time?" brought a strangely varying response. Clerks, stenographers and school teachers often found it necessary to rest occasionally at this time. Mothers of large families of children not only did not find it imperative to rest at this time, but in the large per cent. of cases went right ahead with their regular work. They were found sweeping, scrubbing, washing and ironing clothes, planting and gardening, etc., and in no way deviating from their regular routine. Twelve per cent. said they sometimes felt over-tired at the end of the first day, but that they could not see that their working so had in any way influenced or injured their health. A few said that while they always worked hard themselves, they would not recommend any one else to follow their example, could such course be avoided. Four per cent. said that they not only did not suffer or have to retire from work, but that they felt better at this time and were able to accomplish more, and could not feel that they were doing wrong in working as they did.

The only real leisure class of women, the young society girls who are able to regulate their time as they choose, said that when it was convenient to do so they rested, and that they always tried to do so, the period of rest varying from one to three days; but that if it was not convenient they did not make a hard and fast rule. A few said that if they danced during the first twenty-four hours they felt much the worse for it the following day, but in only a few cases where the pain was evidently of a pathologic nature did I hear of any one who habitually refrained from dancing at the menstrual time.

As to swimming, 20 per cent. said it never occurred to them to go into the water at this time for fear of stopping the flow. Six per cent. said that if the water was as warm as 60 F. they went in as usual, but had never tried it any colder than that. Four per cent. said they went into the water irrespective of the time or the temperature of the water. All these women declared that their experience with swimming was that neither the water nor the exercise hurt them at all, but to the contrary they felt the usual stimulation from their swim. As to bathing, 20 per cent. said that they never got into the tub at all at this time, but contented themselves with a sponge bath. Three per cent. said they did not bathe at all, and one woman who is 50 years old said that since she was 18 years old she has taken a cold plunge and followed it by gymnastics every day, and that she never fails to feel fine after it; certainly her course was strenuous but her health was and is perfect. So that, in answer to the question about bathing the majority of women used a daily warm tub.

Now it is a difficult thing for a woman who has been brought up on the principle that it is suicidal for her not to rest at this time, to change her habits. Many women are forced into it by taking up a work that does not permit of a monthly vacation, and those women say that it is a continual source of surprise to them that they can work at this time as well as at any other. The most that these women complain of is a sense of uneasiness and unrest.

I was discussing this question of menstrual hygiene with a doctor who had lived all her early life in a country community, and she said that she had had a large and intimate acquaintance with the country girls, and she said that they never faintly considered rest at this time as being an essential to health, and it was not until she was well into the thirties, and had taken up her residence in the city, that she was confronted with this idea that a woman has to be an invalid at least one day out of every twenty-eight. Also, she said that she never ceased to marvel that so many women simply gave up to the established custom and never fought it out for themselves. Of course she came from a stock of perfectly healthy women, whose health was so abundant that she could easily marvel at the lack of general health and robustness displayed by the average city-bred woman.

In point of fact, speaking physiologically, if a woman is perfectly healthy, the time she should suffer would be the few days preceding the onset of the menstrual flow, since at that time the engorgement of the blood-vessels is constantly increasing and before the onset the passive congestion reaches its height. It is the general experience that in any other part of the body when an inflammatory condition is set up that the pain increases in direct proportion as the swelling and engorgement of the part is increased, and that the pain is relieved by cupping or any other procedure which relieves the tension of the part. Why then should the general laws of physiology be turned aside for this especial case? The natural law would be that the onset of the flow should relieve rather than induce pain. Also, the few days immediately preceding menstruation are as important, if not more so than the day of the actual onset. There is much to be said of the power of suggestion in this connection. I believe that just as long as women believe that a day of absolute rest is an essential to the maintenance of health, just so long they will have a feeling of discomfort on the first day, and when healthy women can be made to see that this is a perfectly normal function, and should not be attended by pain, they will do their best to see that pain is eliminated.

In many cases this will be found to be impossible, and in those cases, of course, it is best to make innovations slowly. The case should be examined carefully for mechanical defects, such as infantile uterus, anteflexion, or more rarely retroflexion, stenosis of the internal os, or the presence of polyps. But little can be gained until such mechanical errors are corrected. Young girls are frequently chlorotic, and indeed anemia is a common cause of dysmenorrhea, both in young girls and in older women who have borne a number of children in close succession, and in all such cases a careful blood test will greatly help in your case record in showing the improvement your case is making. The value of forced feeding and rest-cure is so well known in such cases as not to require comment.

Another class of cases which are apt to suffer at the menstrual time are those of a congestive nature, as for instance in leakage of the mitral valves where the blood is not pumped evenly over the body.

However, we do not talk of pathologic cases but of physiologic cases which are to be relieved by simple hygiene. It is amazing how many women live in poor hygienic surroundings; they have just enough vitality to get along. Improve the general conditions in which these women live, and bring their well-being a little above par so that they have enough vitality to spare for any unusual drain and their menstrual difficulties will disappear. Good ventilation in the sleeping-rooms is of known merit, and sleeping out of doors is becoming popular. Warm clothing is of maximum importance, and especially must your patient be warned to have her extremities well protected, not only at the time of menstruation, but all of the time. Women must not allow themselves to sit in wet clothing with wet skirts hanging around wet and sensitive ankles.

Regular habits must be inaugurated, and especially does this mean plenty of good sleep. Food of the plain and wholesome kind is of great importance even where anemia is not particularly in evidence.

As to exercise, the patient must have some out of door exercise every day regardless of the weather. If the patient's work keeps her out of doors, it does not seem best to insist on further exercise. Walking, croquet, golf and swimming if the water is not too cold, are none too vigorous for the menstrual time, provided the woman does not carry her exercise to excess. Women are better for being out of doors. Regulation of the bowels, while an old subject, cannot be too much emphasized, and regular habits, such as sleeping and eating.

As to medication, the less the better. The time to give medicine is between the menses, and then the medication should be tonic and alterative. If the circulation is poor, do not give anything which will further depress the circulation. Most of the uneasiness and languor so much complained of come not from uterine lesions but from the fact that the heart is not able to accommodate itself to the loss of blood; anything that will equalize the circulation will relieve the feeling of distress. Digitalis is the logical treatment. It should be given for a few days before the onset of the menstruation and for the first day. The action of adrenalin is also most desirable, but is more fleeting. Do not give alcoholic beverages for the relief of pain in this connection. There are other drugs which are infinitely more desirable. Their action is very fleeting and a bad habit is gained in short order. The salicylates, where patients have gouty tendencies, sometimes help. Belladonna, combined with hot applications, produces relaxation and a degree of comfort. The coal tars depress the circulation, and are, therefore, to be avoided. Hot applications, hot stupes, hot rectal injections are all of value; also alternating hot water bottle and ice bag; but the relief of pain is a

general question and does not need special discussion. The important thing is prophylaxis. Getting the system in good condition beforehand will do more good than all your sedatives put together.

The Russell Sage Foundation Committee, which has for its aim the study of sociologic conditions, has reported that in New York City there is one woman to every four who is a wage-earner. This is a larger proportion than is commonly supposed, and moreover it is a condition that is not confined to New York City. In every city in the United States there is an army of women who go out every morning to work until night. This includes of necessity women of all classes, all conditions, and of all ages. The question is, are they undermining their own health, or are they building it up? Are they endangering the health of the next generation, or will they transmit a tougher fiber? It is a question that demands attention, and it is a question whose economic importance is on the increase from day to day since the number of women who work is everywhere increasing from day to day.

DISCUSSION

Dr. J. M. Dinnen (Fort Wayne): To my mind this paper is probably one of the most important that has come before the association, in that it goes largely into the future life of the girl, treating particularly, as it does, of the age of puberty. The different walks of life I believe have much to do with the conditions that obtain at this time. In the very excellent paper which we have heard the different statistics which the essayist has read, and the various replies she received to her communications, all go to show that there are no two alike.

In my experience I have been impressed with one great, serious error that has been made in this variety of cases, and that is the constant meddling with these conditions. I do not believe that any girl arriving at the age of puberty should be submitted to an examination without mature deliberation. I do not believe there is a practitioner in this room who has been engaged in the practice of medicine for five years that has not seen come to his office at one time or another some girl who has been taken by a well-meaning mother to some physician and treated for conditions that Nature is supposed to take charge of. Not only that, but we have found that the doctor has proceeded so far as to make examination in cases of girls who have never menstruated, and if anyone can show me that that is the proper course to pursue, I will retract all I have said. I think all the conditions surrounding the patient should be taken into consideration, her habits of life, her mode of living, her surroundings, for I believe that enters more largely into the conditions at that time than anything else. The young lady in school is engaged at times with social duties, and how many of them are there who at that time will cut out the social duty on account of their condition? No, their mothers, and intelligent mothers, too, permit them to go on. The result is as you all know.

I believe the physical condition of the patient should be taken into consideration—whether she is anemic; whether her surroundings are such as one could wish. In fact, I believe that that one point of her physical condition should impress us more than any treatment that can be given at this period, and when it is decided that treatment should be given, it is my idea also that the patient should be put into the hands of a person who is thoroughly competent and who will use the best judgment and not accede to the wishes of mother or child.

Then as to the time of menstruation. A perfectly healthy child might menstruate at 12, another at 16. But if menstruation is delayed until 16 there are conditions there that should be looked into, conditions that may be a forerunner of something else.

I cannot add anything else to the paper that has been read, except to impress on you the fact that care and attention to the physical condition of the girl arriving at the age of puberty has more to do with her future welfare than anything else.

Dr. Ketcham: I have nothing more to offer, but I thank you for your attention.

THE TREATMENT OF CLUB-FEET *

John L. Porter, M.D.
CHICAGO

I think it was Phelps, an epigrammatic surgeon of New York, who said that "the treatment of congenital club-foot should begin before the third stage of labor." His intention was to emphasize the point that treatment should be begun at the earliest possible moment and that while waiting for the delivery of the placenta was none too early to begin corrective manipulations of the little distorted feet that had just been thrust into the world. But both the time and the method of treating club-feet depend on several considerations and the subject is logically considered under two heads: (1) congenital club-foot; and (2) acquired or paralytic club-foot.

The treatment of the two classes varies very much because in one class we have strong active muscles to help us complete the cure, while in the other the loss of muscle balance makes the problem mechanically a very different one.

* Read before the Twelfth District (Indiana) Medical Society, at Fort Wayne, Nov. 15, 1910.

In congenital club-foot the only problem is to restore the foot to its normal position and hold it there until the tarsal bones have changed their shape to conform to their new position and the muscles on the convex side of the deformity have shortened enough to functionate and hold the foot in position. The measures necessary to accomplish this will depend on the age of the patient and the rigidity of the contracted tissues. From this standpoint we divide congenital club-foot into three groups: (1) infants that have never walked: (2) children that have walked but whose tarsal bones are still in a formative stage, say up to 10 years; and (3) older children and adults who have walked on the distorted feet until the tarsus and metatarsus have undergone marked change in shape and the connective tissues, the tendons, ligaments and fascia have become very short and hard. Of course, this classification is purely arbitrary and we will often find different cases in the same group, which present marked differences as regards degree and rigidity of deformity. It goes without saying that the earlier correction is undertaken the easier it will be and the better the result.

As to the treatment of the first group, it is my custom to correct a club-foot in infants as early as possible. There may be good reason, however, for delaying the operation. If the baby is a poorly nourished, fretful, crying child it is often advisable to wait until its nourishment is improved and it is more comfortable and quieter, because the discomfort following the operation and the irritation caused by the plaster cast or other retentive dressing may aggravate the child's restlessness so seriously as to prevent any improvement in its general condition. Where there is no reason for delay, however, we proceed to correct the deformity at once, and right here we discover that there is a vast difference in cases, even in infants. One child of say 3 months may present a deformity that can be easily corrected by the hand and retained by the simplest adhesive dressing without operation, while in another of the same age the deformity will be so resistant and tissues so contracted that numerous tenotomies and prolonged stretching and tearing will be necessary before the foot can be unfolded and held in an over-corrected position.

Brief outline of operative procedures for the different degrees of deformity:

1. *Infants.*—Manipulation, stretching and tearing of shortened tissues to overcome the varus. Tenotomy of Achilles tendon and of tibials if sufficiently resistant. More manipulation until all varus and equinus deformity is corrected and foot can easily be held in over-corrected position. Pad foot well with felt or flannel over a cotton stocking (never use absorbent cotton) and put on a light smooth plaster cast to the knee. Replace in four weeks.

2. *Walking Children.*—Manipulation; division of inner third of plantar fascia (subcutaneous); more manipulation; tenotomy of tibials; more manipulation; tenotomy of Achilles; manipulation to overcorrection; seal tenotomy wounds; pad carefully; put thin wooden splint under the foot; plaster cast. Let patient walk as soon as can comfortably.

3. *Older Cases.*—If, after above procedures described for Group 2, the foot cannot be over-corrected, make longitudinal incision along outer border of foot over calcaneocuboid articulation and remove with chisel a wedge of bone sufficiently large to correct the deformity when the gap is closed. Sew up wound without drainage, dress and pad carefully and put on plaster cast.

Other operations for Group 3 are Phelps's operation, astragalectomy and tenotomies (same as Group 2) and gradual correction by plaster cast. The first two do not produce as satisfactory results as cuneiform section and the last is tedious and painful.

Postoperative Hints.—The after-treatment is fully as important as the operation. The foot must be retained in corrected position for several months or it will surely relapse. Casts should be renewed once a month and pressure sores carefully guarded against. Walking on the corrected foot in a cast or brace is one of the best corrective measures and should be encouraged as soon as comfort will permit.

PARALYTIC CLUB-FOOT

As in congenital club-foot the earlier treatment is begun the better will be the result, but the earliest treatment of the paralytic variety is preventive and not corrective. Since the paralytic deformity is due to the overaction of non-paralyzed muscles our first duty, and one that is often overlooked by the family physician, is to prevent the contractures which do the mischief. As soon as the paralysis is definitely established and we learn what muscles are lost, all strain on those muscles by the contraction of the opposing groups should be prevented by fixing the foot in such position as to relax the affected muscles as much as possible.

We are often surprised at the amount of power that will finally develop in muscles that were

apparently paralyzed, if they are held fixed for a year and a half or two years in such position that the stronger muscles cannot overstretch them. However, many cases appear sooner or later with fixed deformity and we must correct them.

If we simply proceed as in congenital cases to correct the deformity and hold it until Nature completes the cure, we shall be sadly disappointed, for Nature has lost her only means of assistance, namely, muscular contraction, and the deformity will surely relapse. Not only must we restore the foot to its normal position but we must devise means to hold it there forever after.

Let us suppose we have a case of rigid talipes equino-varus due to paralysis of the peronei and contractures of the anterior and posterior tibials, the calf group and long plantar flexors. How shall we restore the foot to its normal position and hold it there?

There are three methods, all useful:

1. Tenotomies and forcible correction as in congenital cases, depending on the brace to take the place of the paralyzed muscles and hold the foot.

2. Tenotomies and tendon transplantation, a most useful method in properly selected cases. The limitation in its use consists in the necessity of having enough active muscles on the contracted side of the deformity to permit of transferring one or more to the relaxed side. Of course, in cases where all the muscles surrounding a joint are lost it could not be considered.

3. Arthrodesis, with or without tenotomies or tendon transplantation. In many cases where all muscles controlling a joint are lost, especially about the knee and ankle, the patient can use the leg to better advantage if the joint is made stiff. Instead of depending entirely on braces to do that it is often preferable to stiffen the joint by removing the articular surfaces and allowing ankylosis to take place. The technic for the ankle is very simple, using Kocher's fish-hook incision to expose the joint and taking pains to remove *all* the articular surface down to raw bone. This method is also my method of choice in cases where there are some muscles or parts of muscles left but not enough for transplantation.

THERAPEUTIC NOTES

Charles G. Beall, M.D.
Fort Wayne

Treatment of Abscesses.—The following procedure, while an old one in the treatment of "cold" abscesses, has been used in the treatment of acute subcutaneous abscesses due to the various pus-producing organisms with a remarkable shortening of the course of the process.

The skin over the abscess is made surgically clean, the abscess is punctured at the most superficial point with a trochar (one-sixteenth to one-eighth inch diameter), evacuated, and thoroughly irrigated through the trochar with a mild antiseptic solution, such as $HgCl_2$ 1:4,000. The irrigation is continued until the solution returns clear, then the cavity is filled with an 8 per cent. emulsion of iodoform in glycerin and sealed with collodion and cotton. It is wise to apply an abundant absorbent dressing to collect the iodoform should the collodion seal break, which is, of course undesirable. In the great proportion of cases no further attention is necessary and the induration rapidly disappears.

Santonin and Castor Oil.—Reports of cases of poisoning by santonin when given as an anthelmintic are not infrequent. When the details of the reports are given it is sometimes found that castor oil has been administered following the dose of santonin. This drug when given as a vermifuge exerts its effects as an irritant to the worms. The systemic effects of santonin are of no benefit for this purpose, and to say the least are undesirable. Santonin is soluble in castor oil. The systemic effects of any drug are due to its absorption, and a drug's absorption is dependent in a measure on its solubility. It is reasonable to assume, therefore, that castor oil increases the absorbability of santonin, and hence should not be given when santonin is administered for its anthelmintic action.

Silver Nitrate Irrigations in the Treatment of Infectious Diarrhea in Infants.—Dr. Richard M. Smith presented a paper with the above title. He said that a solution of 3 per cent. silver nitrate had been used at the Boston Floating Hospital last summer in treating both the acute and chronic cases of infectious diarrhea. One pint of the solution was injected after the colon had been cleansed with a sterile water irrigation. In some of the cases an early injection apparently hastens the disappearance of blood from the stools and shortens the course of the disease. In some late cases where blood and pus persist in the movements, the ulcers can be stimulated to healing by silver nitrate injections. Since no harm has followed the use of silver nitrate injections and benefit has been re-

ceived, it would seem worth while to give this means of treatment a further trial.—*Pediatrics*, March, 1911.

Administration of Sodium Salicylate (Lee's Method).—For the effective treatment of acute and subacute rheumatism and of chorea, large doses of sodium salicylate are often necessary. In spite of the tendency of this drug to produce unpleasant symptoms, such as vomiting, deafness, etc., it is almost always possible to give large doses, if the following method of administration be adopted:

1. To every dose of sodium salicylate, twice as much sodium bicarbonate must be added.

2. The combined drugs must be given every two hours during the day and every four hours during the night: ten doses in twenty-four hours.

3. When any unpleasant symptoms are produced, two or three doses should be omitted. Then the administration should be recommenced, using smaller amounts; one-half or two-thirds of the previous dose, according to circumstances, but given as before, ten times daily. The amount should then be increased as rapidly as possible.

4. The initial dose may be 15 grains for an adult, 10 for a child of 8 to 12 years, 5 grains for a younger child. This amounts to 150 grains sod. sal. with 300 grains sod. bicarb. daily; 100 grains sod. sal. with 200 grains sod. bicarb. daily; 50 grains sod. sal. with 100 grains sod. bicarb. daily.

5. The amount of these drugs should be increased every day, or every second day, by 5 grains of sod. sal. and 10 grains of sod. bicarb. in each dose, or daily 50 and 100 grains, respectively.

6. The administration should be temporarily suspended if vomiting, deafness, tinnitus or any tendency to delirium be produced. But the period of suspension should be short—rarely more than twelve hours—often a shorter period suffices if the amount given be reduced.

7. The amount of sodium salicylate required in an ordinary acute rheumatism is from 100 to 250 grains daily; in chorea from 200 to 350 grains; in chronic or subacute rheumatism the dose may require to be raised to 450 grains or even 500 grains.

8. Children require nearly as large doses as adults, for in them the rheumatic infection is specially virulent.

9. Enough sodium bicarbonate must be employed *to render the urine alkaline*. If this be secured, and constipation be prevented, the salicylate may be given freely without apprehension. But if a rheumatic child be costive and too little bicarbonate be given, it is possible to bring about a condition of poisoning by salicylate—drowsiness and deep breathing, increasing to air hunger and coma, with acetonuria and the odor of acetone in the breath. This is the real danger from salicylate; it may also be produced by aspirin. But it can always be avoided by attention to the directions given above. The existence of this danger should make the physician watchful, but it should not lead him to deprive the patient of the great benefit to be obtained from large doses for a younger child.—Mackenzie: Diseases of the Heart.

The results obtained by this method in a few personal cases warrants it being given a trial. The details of the method should be carefully followed, and needless to say only the best grade of salicylate used.

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EDITORIALS

TOPOGRAPHIC PROGNOSIS IN PULMONARY TUBERCULOSIS

Though post-mortem and clinical evidence have long ago proved that apical tuberculosis is many times a benign affair, frequently having run its course to a cure without ever having revealed its presence, yet only recently has attention been directed in a systematic way to the relative severity of the disease as it affects the different areas of the lungs.

More recently clinicians with a wide experience in the care of the tuberculous have studied their cases with respect to the prognoses in the various areas involved, and Walsh has just published[1] the results of his studies concerning the prognosis in lesions involving the whole of or more than one lobe.

After having had his attention called to the fact three years ago by Stanton, that cases of tuberculosis of the lungs with large lesions (lesions involving an amount of tissue greater than the right upper lobe) usually did better when left-sided than right-sided, Walsh began observations on this point. Basing his study on 67 cases with large lesions and whose period of observation had been sufficiently long to warrant definite statements regarding extent of involvement and results, he found the outlook in large left-sided lesions good in 45 per cent., fair in 29 per cent. and bad in 26 per cent., while in corresponding lesions of the right side the result was good in 31 per cent., fair in 17 per cent. and bad in 53 per cent. Omitting the lesions confined strictly to the right upper lobe, the result in cases with large lesions on the right would be much worse, i. e., good 19 per cent., fair 8 per cent., bad 73 per cent. In this classification of results, good result has been taken to mean that the patient is well and has been pursuing his ordinary occupation for a period of from two to five years (except in two cases); fair result means well for one year, but unable to work, while bad result means that patient has died or is hopelessly sick in bed.

1. Am. Jour. Med. Sc., April, 1911, pp. 589-593.

So that all things considered, Walsh feels warranted in believing that large left-sided lesions more frequently give good results than large right-sided ones. Stanton's personal statement made at the 1909 meeting of the National Association for the Study and Prevention of Tuberculosis well expresses his convictions on the subject, and follows:

"I have long been convinced that a large left-sided lesion offered a better prognosis than a large right-sided lesion. The kind of a case I refer to is familiar to every one working in tuberculosis. One rather frequently sees patients with complete left-sided involvement with râles over both lobes, and the apex beat palpable and visible as far out as the left anterior axillary line. The right chest in these cases is usually much larger than the left and has a much greater amount of motion. Such patients often have a practically normal pulse-rate and are able to do nearly the normal amount of work. While such a case as this is not uncommon, I have never been able to find a patient with the same amount of involvement on the right side who was able to get even a moderate amount of strength."

Stanton's original explanation of the poorer result in large right-sided lesions being due to the extra work thrown on the heart by virtue of its being drawn to the right with consequent torsion on the great vessels, was definitely disproved by seventy-five autopsies on patients dying of tuberculosis wherein it was found that in those cases in which the heart was displaced to the right the process was not unlike a displacement to the left, with no twisting of the great vessels.

Walsh's theory seems at this time to be the more plausible one. He reasons that large right-sided lesions usually represent an acute or subacute progression of the disease with little or no resistance, and large left-sided lesions are usually in cases that have advanced on account of causes not connected with the disease, as environment, etc., and which show that their susceptibility to tuberculosis is not great by the fact that they have cured or practically cured a lesion at the right apex. It has been shown that the primary seat of pulmonary tuberculosis is more frequently at the top of the right lung than the left; that this lesion usually heals and in so doing surrounds itself by a special resistance, so that should further dissemination occur, it is usually implanted at the apex of the opposite lung. Exceptionally the individual is too susceptible or the lesion too virulent to admit of healing and the disease progresses acutely throughout the whole or a large part of the upper lobe, or even of the lung on the first side. In other cases,

after half-healing at the apex, the individual's resistance disappears, the partly-healed lesion breaks down and continues to advance on the same side. The prognosis is better in the first or usual way of development than in either of the latter ways.

A further study of Walsh's cases shows that the best results were in those cases where there was a large lesion on the left with chronic involvement of the right apex, or a large lesion on the right with chronic involvement of the left apex, while the cases that gave the majority of bad results were cases with large lesions on the left without any lesion on right, or large lesions on the right without any involvement of the left side.

INFANTILE DIARRHEA TREATED WITH DIVI-DIVI AND BANANA FLOUR

To those of us who have had to watch the processes of the more severe diarrheas and their consequent prostration taking place during the first and second summers of a child's life, with an all-too-frequent fatal result, a welcome note will be sounded by a line of treatment which so far seems very promising. Vipond, in the April number of *Archives of Pediatrics,* certainly presents some very encouraging data concerning the use of the tincture of divi-divi, a West Indian herb, used as a drug, combined with the use of banana flour and plantain meal as foods in the summer diarrheas of both children and adults. When one stops to think of the enormous death-rate from this trouble he is almost appalled, statistics from London, New York City and Montreal showing that over one-fourth of all the fatalities in patients 1 year of age or under are due to diarrhea. Were any of the well-recognized contagious diseases responsible for such a death-rate, the community would be alarmed and excited over what would seem to be a well-established epidemic, and no stones would be left unturned until the sources of infection had been determined and wiped out. Unfortunately, our results in the treatment of these conditions are little if any better than they were a decade ago and for such lack of progression there must be reasons.

Vipond has concluded that among the most important ways of diminishing our infant death-rate are:

1. A young woman or girl should be allowed to marry only on evidence of some instruction as to the care of infants.

2. The necessity for breast-feeding should be impressed on all women, and weaning should be undertaken only on the advice of an intelligent physician.

3. Likewise must the necessity for strict adherence to a physician's advice regarding feeding be urged on the parents.

4. Cleanliness and abundance of fresh air, and perfect house ventilation are absolutely essential to normal growth of the child.

The author divides the causes of summer diarrhea into primary and secondary causes, the primary one being artificial feeding. Out of forty cases of diarrhea in private practice, there were only nine that were nursed, thirty-one being artificially fed.

Among the secondary causes may be mentioned dirty bottles, nipples and "comforters," together with filthy and illy-ventilated living apartments. Regarding the effect of temperature, it may be said that the hot, wet summer favors diarrhea. Thunder storms and particularly a loud clap of thunder seem to upset the infant's digestion and produce diarrhea. The effect of cold is to contract the superficial vessels and engorge the internal ones and thus produce diarrhea.

The rôle of contaminated milk in the production of the summer diarrheas of infants is so obvious as to need little enlargement at this time. Several microorganisms have been described as the etiologic factors, the more notable of which are Flexner's, Shiga's and Morgan's bacilli.

For many years Vipond has been dissatisfied with the results of our treatment of infantile diarrheas by bismuth and other modern methods. For this reason he determined during his travels in the West Indies to endeavor to find some other astringent or some other combination of astringents as yet unusued by the profession, both as food and as medicine. Banana flour and plantain meal afford a nourishing, easily digested and astringent food. While not an ideal food, yet it will tide over a crisis, keep up strength and tend to arrest diarrhea. Being composed of 3.06 per cent. protein, 7.14 per cent. dextrose, 72.47 per cent. carbohydrates, with 1.29 per cent. tannin, both the nutritive and astringent properties are patent. The banana flour and plantain meal are prepared much as one would prepare cornstarch, three teaspoonfuls being put in a small dish, rubbed up with a small quantity of sterilized water and about 10 ounces of boiling water added, stirring vigorously. Boil ten minutes and add a bit of sugar and a pinch of salt. For older children it may be made into a pap or porridge, or into banana cakes.

After ingestion of banana flour or plantain meal, the stools change color, become brown and

lose the bad odor so characteristic. The first result noted is in the change in consistency rather than in the diminution of frequency, the stools sometimes becoming quite hard, but in a short time the frequency lessens.

Out of 193 cases treated with divi-divi, seven died with the diarrhea, a mortality of 4 per cent., in Vipond's experienece, and this is certainly an enviable record. The divi-divi contains not only 50 per cent. of tannin, but also oleoresins, which add to its astringent properties. One dram is mixed with 2 drams of boiled water and given slowly a few drops at a time with a sip of boiled water between, to keep down the astringent taste, otherwise the child may vomit. It is well to precede the divi-divi with a dose of castor oil, and if there is much vomiting it may be well to give a preliminary stomach washing. One dram of the tincture of divi-divi may be given to an infant of 1 month, sometimes producing an immediate result, the diarrhea not infrequently disappearing after the first dose. In other cases several doses were required to do good, while occasionally it had to be kept up for days; but as a rule it acts quickly, and the earlier given the better the result, though excellent results were seen in some chronic cases. In eleven cases it seemed to have no effect, the trouble apparently increasing in two or three cases, so that the drug is not an absolutely sure cure.

To this interesting article are appended the reports of some thirty cases treated by this method, these cases ranging in severity all the way from the mild to the gravest forms. Of the thirty cases but one died, and that one collapsed and was almost dead when first seen. As a type of one of the more persistent cases, the history of Case 1 is interesting:

Baby W., aged 3 months, fed artificially. Diarrhea for last three weeks. Aug. 21, 1910, bowels moved nine times a day; motions are green, curdy and like water. The child is skin and bone and weighs about 5 pounds; skin inelastic; depressed fontanel, purpuric spots on the body. Altogether it seemed a hopeless case.

Treated by tincture of divi-divi, 1 dram every two hours, and banana flour as food. August 23: bowels moved three times during the night, twice during the day; much improved; taking food readily; motions are more solid. August 25: much better.

September 5: putting on flesh; bowels move twice a day. Losing wrinkled appearance; skin regaining tone. September 9: stouter; no diarrhea; motions hard. Could hardly recognize the former skeleton.

From this type of case the list progresses so as to include both the more acute and the more chronic cases, the last three of the series being chronic cases in adults.

In the past Vipond has been starving his little patients on barley water, rice water, egg albumin, etc., with a fatal result in the majority of cases from starvation and lowered blood-pressure. While not fattening, the banana flour and plantain meal are nourishing, and most of the infants do not lose weight while taking it. He continues the use of the banana flour until the diarrhea is arrested, then adds to the banana food half a tea spoonful of condensed milk per feeding, and if this agrees, gradually increases the condensed milk. In this way the little one can be gradually brought to the place where it can take some form of modified milk.

The author believes it a material advantage to administer small doses of strychnin along with the other treatment, and warns about keeping the child quiet and warm. He concludes by admonishing against looking for a cure in every case, there being a few cases in which the divi-divi will have no effect, or may even produce vomiting. If vomited for the first two or three times the drug is usually retained later on.

From the results quoted, the effect of this line of treatment seems encouraging, and in view of our enormous mortality and morbidity from summer diarrheas in the past, it would seem but fair to try out a more promising course of therapy.

EDITORIAL NOTES

If you want to buy or sell anything, why not make use of our commercial announcements?

And the fish are biting. Where is there a doctor who does not enjoy fishing? Why not get out the rod and reel and spend an occasional morning or afternoon casting for the wary black bass? Doctors need such recreation.

Fort Wayne is always well represented at the annual sessions of the A. M. A., and this year the Fort Wayne Medical Society has engaged two special cars for the use of members and friends who desire to travel together in going to Los Angeles. In this number of The Journal we publish a letter from the committee giving particulars concerning the arrangements.

The Alumni Association of the Indiana University School of Medicine will hold its next meeting and banquet at the Columbia Club, Indianapolis, at 7 p. m., on May 29, 1911. The time selected is a favorable one inasmuch as the date permits the alumni and professors to get in touch with the students who are about to graduate, and the season of the year is one when most men will find it convenient to attend.

One of the best things advocated and carried out by Secretary Hurty, of the State Board of Health, is the annual school for county and city health commissioners. This year the school was held in Indianapolis May 9 and 10, and was an unqualified success. Those who attend the school gain information which directly applies to the conduct of affairs in connection with the public health offices, and while primarily the school is in the interest of the health officers, it is essentially of most importance and benefit to the public that is served by the health officers. The health commissioners are authorized to draw on their communities for the expenses and *per diem* in attending the school.

Dr. James W. Lilly of Indianapolis, treasurer of the Red Cross tuberculosis committee, in a recent statement to the public, says that during the last two years seventeen tubercular patients from different parts of the state have been given treatment at the Rockwood Tuberculosis Sanitarium from the money received from the sale of Red Cross Christmas seals. Owing to the careful selection of these cases not a single death has resulted, and each one gives promise of attaining complete cure in due time.

It is hoped that the results of this campaign against tuberculosis may spread to all parts of the state and that the usefulness of the work may receive full recognition and reward. In order that this may be accomplished the Red Cross committee is very careful to see that the benefits of the fund are equally distributed over the state. Care should always be used in the selection of cases with regard to worthiness and probability of cure.

The new amendment to the Pure Food Law specifies that it is unlawful to sell milk containing visible dirt, and this enables officers to get at a dangerous violation. Under the old law the prosecution had to prove that dirt found in milk was vegetable matter, and this was not always easy to do. The selling of milk containing dirt to consumers is more dangerous to the public than the older practice of watering or skimming the milk. It is not only the settlement of dirt in the bottom of the bottle that is significant, but what that sediment represents of dirt in solution in the milk. In Indianapolis several prosecutions of violators of the amendment to the Pure Food Law have resulted in fines imposed on careless dairymen. One dairyman was fined $10 and costs for selling a quart of milk in which a fly was found. Another dairyman was fined for selling milk which contained visible dirt. If the law is vigorously enforced it will mean a much purer milk supply and more care on the part of dairymen who depend on public patronage.

Muncie has a mad-dog scare, and in consequence the police of that city are ordered to shoot on sight any unmuzzled dog found roaming on the street. Recently we witnessed a scene in connection with the enforcement of that order which made us feel that in Muncie there is room for very active work on the part of the Society for the Prevention of Cruelty to Animals. A dog that looked as though he might have been prized by the owner, but that had unfortunately wandered out without a muzzle, was the target for one of Muncie's policemen, who after three shots from a revolver, at close range, succeeded only in wounding the dog. Bleeding and limping the dog took shelter under a building where no one could reach him, and there he probably suffered for hours before dying, or it may be before venturing out a cripple, but still at the mercy of the next policeman who may add to the suffering without causing death.

The public looks on this as being entirely proper, but is not inclined to look on vivisection favorably, even though vivisection as ordinarily practiced is entirely devoid of such cruelty and serves a purpose the value of which cannot be estimated by a standard of dollars and cents.

Doctors seldom take advantage of opportunities to buy standard equipment at bargain prices, and we have often wondered why this should be. So. No long ago the widow of a physician offered for sale an exceptionally fine outfit, including a Zeiss microscope, *x*-ray machine, a static machine, operating table, two instruments cabinets, and a quantity of instruments, books, etc. The articles were advertised in two or three medical journals, and circulars were posted in a medical college where a senior class was about to graduate. The prices asked were about one-quarter the

original cost, and the statement offered that the equipment was practically as good as new. The only inquiry came from an instrument firm, who offered and finally bought the entire outfit for about one-fifth its original cost. In all probability some doctor afterward bought the same outfit from the instrument dealer at but slightly under list price, and thought he secured a bargain. This leads us to call attention to our department devoted to commercial announcements, on the last inside cover-page, where frequently our readers will find standard equipment of one kind or another offered for sale at prices much less than the same equipment could be bought of the instrument firms.

Dishonest ice cream manufacturers will have a hard row to hoe in Indiana this year. The federal government is hot on the trail of those who ship their product outside the state and the state food and drug department will attend to the home producers.

Dr. Barnard has issued a notice to all ice cream manufacturers in the state calling their attention to the standard for ice cream in Indiana. He says:

"Ice cream is a frozen product containing not less than 8 per cent. of butter fat and 18 per cent. of milk solids, with the addition of sugar and with or without natural flavoring and not to exceed seven-tenths of 1 per cent of gelatin or vegetable gums.

RULE IS COMPREHENSIVE

"Fruits, nuts, candied and preserved fruits and nuts, chocolate and other similar products shall be classed as flavorings, and ice cream containing such ingredients shall conform to the standard above specified."

Special attention is called to the provision of the law which makes it illegal to color or adulterate any food produce so as to make it appear better or greater in amount than it really is. Notice has been received by the department that ice cream containing added color is being sold without being labeled to indicate that fact to the consumer.

"The addition of any color to ice cream which makes it appear richer in butter fat is in violation of the pure food law unless the fact of the addition of the color is clearly set forth," says the bulletin. "The use of fruit colors, such as counterfeit the color of strawberry, cherry, peach, etc., is not allowed unless the goods are marked, 'imitation,' and declare the presence of the color."—*Indianapolis Sun.*

The last legislature passed a cold-storage law, and under this law all food products placed in storage, except those destined for interstate shipment, must be "marked, stamped and tagged" with the date of their receipt, and also the date of their removal from storage. Food products shall not be held longer than nine months. In case any meat, fish, butter, eggs, cheese, poultry, game, fruits or farm and garden products, or other perishable food products, are left in storage longer than nine months, it is made the duty of the manager of the storehouse to report the same to the State Board of Health. And it is made the duty of the board to inform the nearest judge or justice of the peace that the goods have been stored longer than nine months, and the judge is empowered to order the destruction of the products. Eggs that have been stored for more than thirty days must be placed in a receptacle marked "cold storage" when they are offered for sale, and the container in which eggs are delivered for consumption must be thus marked.

Persons conducting a cold-storage business must keep accurate records of the food stored, which records shall at all times be open to the inspection of the board of health, which shall issue licenses for cold-storage warehouses. Of course, the State Board of Health is to have power to inspect, not merely the records, but the plants themselves, and the food stored therein at all times. Such legislation as this is greatly needed. For though cold storage is a blessing when the business is rightly carried on, it is a serious menace to health when it is not rightly carried on. There are economic considerations also that are important. Men have used the cold-storage plants to limit the food supply, to create a monopoly, and so to force up prices. In other words, the effort has been to manufacture an artificial food scarcity. Goods have been put in cold storage, not to save them for future use, but to keep them out of the market until such time as the price was "right" for the sellers of the goods.

But even this is not the worst of it. Bad as it was thus to lift prices, the waste and destruction of foodstuffs that had been held too long was even worse. That much food has thus been lost is certain. Greed overreached itself, and the result was that the food, being utterly unfit for consumption, had to be destroyed. The new law will do something to check these evils. The legislature is entitled to the gratitude of the people for having passed it. The people have a right to know whether they are buying cold-storage products or not, and if so they should know how long they have been stored. The law is one that was greatly needed.—*Indianapolis News.*

Dr. S. G. Smelser of Richmond, against whom charges of incompetency have been filed by the State Board of Medical Registration, of which he is a member, will, it has been asserted, file counter charges against several members of

the Board which will allege suppression of records bearing on the proceedings of the Board and the additional charge that some members of the Board are alleged to have violated the law by charging excess *per diem* for their services.

The contention of the Board, as also the retaliatory defense put forth by Dr. Smelser, received attention at the last session of the Indiana State Medical Association, when Dr. Wishard, the president of the Council, presented the facts and asked that the Association place itself on record concerning the conditions existing. Dr. Wishard did not hesitate to call a spade a spade, and his exposition of the subject in the presence of Dr. Smelser left but little room for doubt as to the accuracy of the charges preferred by the Board and the warrant for action on the part of the governor if he desires to maintain the competency and efficiency of the Board. Dr. Smelser's defense was exceedingly lame, and his own speech before the House of Delegates was sufficient to prove the charge of incompetency, and his countercharge that members of the Board were charging the state double fees for services rendered was fully explained by Dr. Wishard, who stated that the attorney general had given the opinion that the members of the Board were justified in making additional *per diem* charges when extra sessions were held in the evening in order to expedite the work. If such sessions were postponed until the following day the expense to the state would be the same, and oftentimes the work would not be expedited as well as would be the case if the session had been held on the previous evening.

But this trouble with the State Board of Medical Registration and Examination leads us to remark that the highest efficiency of the Board will not be attained until the Board is divorced from politics. Some of the members of the Board were originally appointed and continue to hold office not because of competency but because of politics. Dr. Smelser had the endorsement of some politicians, but his appointment was opposed by the medical profession in general on the ground that he was incompetent to fill the position creditably. A similar condition obtains in connection with the appointment of some of the other members of the Board.

In passing it may be said that the Medical Board is not the only appointive board in the state to which incompetents have been appointed as a result of political influence. Governor Marshall, before and immediately after election to office, put forth some rather strenuous statements concerning his intention of economizing and securing the highest efficiency in the various departments of state government, and he has more than once said that it would be his purpose to use his appointive power in the interest of the highest efficiency. Some instances might be cited to show that the governor has a poor conception of what constitutes efficiency or he has joined the ranks of the politicians who believe "to the victor belong the spoils," and that all things should go to the man with the pull.

We are not interested in the politics of the Board, but we are interested in the competency and efficiency of the Board, and it seems strange that an office carrying with it so little compensation and requiring some sacrifice on the part of medical men who accept the position, should be subject to so much wire pulling on the part of politicians. Furthermore, if the governor really wants to make himself popular with the people he ought to let the politicians understand that competency and efficiency will be his motto, and that if he can attain the end and comply with the wishes of the politicians he will do so; otherwise appointments will be made independent of politics.

Dr. J. N. Hurty, Secretary of the Indiana State Board of Health, has given out the following statement concerning the health legislation of the last legislature:

"The state board of health had eight bills before the legislature and secured seven of them. In addition the board is given a total increase of $25,000 for the public health work. The two laws which the state board considers of the most importance are the medical inspection of school children and the sanitary school-house act.

"After years of study, the present board of health believes the place to begin the conserving of public health is with the children. The medical inspection act gives permission and recommends to all school authorities that they institute medical inspection of school children. It is now known by actual experience that 40 per cent. of school children are either physically defective or sick and need medical attention. This fact shows that education is to a considerable degree a medical problem.

"Children with defective eyesight, defective hearing, defective breathing apparatus cannot and do not make strong, vigorous and useful citizens. Those having these defects should have them removed and then it is possible to make men and women of them. Wherever the medical inspection act is adopted and put into force, it will soon be discovered that money is being saved in large quantities because of the increased efficiency of the children and the lessening of epidemics of children's diseases. Every time school is closed because of the outbreak of some infectious disease there is a money loss. Medical inspection by picking out the children who are sick with infectious diseases in mild form will prevent many outbreaks. It would be difficult indeed to make a true estimate of the economy

and useful benefits which will follow from thorough medical inspection of school children.

"The sanitary schoolhouse law requires that all schoolhouses hereafter built or remodeled shall conform to certain well-known, scientific conditions. The children must be given an abundance of light properly introduced: they shall be properly seated so as not to deform their bodies; they shall have plenty of air so as not to impair their health and efficiency and they shall have an even temperature with proper humidity in the schoolroom.

"The law also requires that ample playgrounds shall be provided. A schoolhouse that does not have ample playgrounds is a monstrosity. Play for the children is of more importance than the education from books. Children in play secure vigor of body and mind. They learn judgment, their will power is increased and skill in the use of their bodies is attained.

"The other laws which were recommended and lobbied for by the board of health were: For the prevention of blindness, the prevention and treatment of hydrophobia, the regulating of cold storage, the control of weights and measures, and the amendment of the food law so that proprietors of dairies and milk depots may be convicted when they violate the law. The omission of the word 'himself' as ruled by the Dearborn county court in the food law prevented the conviction of proprietors of dairies and creameries.

"The hydrophobia law, which is of the very greatest importance to the people, requires that 5 per cent. of the excess dog tax be paid to the state treasurer to comprise a fund for the support of a laboratory and the combating of hydrophobia, which the law directs shall be carried on by the state board of health. The ophthalmia neonatorum law requires that all physicians and midwives in attendance, shall carefully examine the new-born child and with especial reference to its eyes. If the least reason is found to believe that the eyes are threatened, then proper scientific treatment shall be given. To make sure that this is done, the law requires that every birth shall be reported to the nearest health officer within thirty-six hours after occurrence, and upon the birth certificate report shall be made whether or not treatment was given to the eyes. Failure to obey this command will render bills for service null and void, and subject the violator tc a fine of from $10 to $50.

"The cold storage bill will eventually prove of the greatest benefit to the public health. Its provisions are intended to prevent the distribution from cold storage establishments of insanitary and unwholesome foods.

"The weights and measures law will unquestionably save several hundred thousand dollars annually to the people. The bill is far from perfect, but it will do a good work. All of these laws would have been better machines for the service of the people had the amendments been kept out of them. They were originally written by persons who were thoroughly informed after studying the questions for years. They were written but with one object in view, namely, service to the people. Amendments crept into nearly all of these bills, the same being mostly advanced for selfish or local reasons. Such motives never entered the minds of those who originally drew up the sections of the various acts.

"Two bills which were introduced into the legislature intended for the public health were written by persons who had not studied the subject which the said bills were intended to cover. This is continually happening in every legislature. It is to be deplored that so many men think themselves competent to write laws covering subjects of which they know little or nothing, and it is also to be deplored that members of the legislature do not more frequently consult the various boards and departments of the state when they think that it is desirable and necessary to pass legislation which affects the work of such departments and boards."

CORRESPONDENCE

To the Members of the Indiana State Medical Association:—I have recommended some innovations for the next meeting of the Association, to be held at Indianapolis, Sept 28 and 29, 1911. Some of these have been suggested by others, while some are of my own motion.

In the first place, we plan to have clinics preceding and following the scientific sessions, as has been done by the American Medical Association. The American Academy of Ophthalmology and Oto-Laryngology, of which Dr. J. J. Kyle of Indianapolis is president, meets here the same week, their scientific sessions being on Monday and Tuesday, September 25 and 26. As they desire to have some clinics, it is probable that the City Hospital clinics, Wednesday morning, September 27, will be given over to the eye, ear, nose and throat men, while the surgeons, and possibly the internal medicine men, will occupy the afternoon. Other clinics will be given at the Medical College, the St. Vincent's Hospital and elsewhere. The clinicians will not be confined to those connected with the College or City Hospital staff, but any doctor having an interesting case can have it bulletined by notifying the Clinic Committee, of which Dr. Paul F. Martin is chairman.

Interesting and instructive demonstrations in pathology, anatomy, physiology and x-ray have also been promised.

As to the scientific program, I have advised the committee to consider the audience rather than the essayist. We have sometimes reversed this on the ground that the essayist must be given a chance to read his paper, whether doctors wish to hear it or not. This is certainly a mistake, and does not help the essayist any, while it may bore the audience. For example, if two or more papers are sent in, covering the same subject in much the same way, the second proves to be a tiresome repetition of the points given in the first. In such a case but one should be read, and the writers of the others should lead the discussion.

It is expected that some of the very interesting developments of recent date in medicine will be presented by capable men.

In so far as the President can do it, I shall try to facilitate and push forward the business of the House of Delegates that its meetings may not detract so much from the scientific sessions as they did at the Fort Wayne and French Lick meetings. I do not mean by this to infringe on the right of any delegate to present or discuss any measure he thinks important, but I hope to have the cooperation of all in avoiding unnecessary motions, long talks or the presentation of fancied grievances or mistaken notions, which a little reflection would show to be unnecessary and unwise.

As to the social features I am told that the Indianapolis Medical Society will give some kind of an informal function, immediately following the first meeting of the House of Delegates, Wednesday evening, September 27. And now we come to what I think will prove the greatest innovation and the biggest feature of the meeting. At my suggestion the cut-and-dried Thursday night program will be entirely changed. The President's address will be done away with, its place being taken by messages like this to the profession through The Journal, and a few words in opening the House of Delegates, and possibly also at the first general session.

Some of the older physicians may remember a very notable banquet held here over twenty years ago, at which James Whitcomb Riley gave his celebrated "Doc Siphers," and several fine speeches were made. We propose to do our best to get up a banquet equally great and notable. To that end the Thursday night program will be devoted entirely to this banquet, beginning early so that it may not get tiresome, having only fine speakers, about six in number, with an understanding that no speaker shall make a very long talk. We intend to make special features of medical education, the fight against quackery, the achievements of medicine and other important subjects which will draw the attention of the laity to the power, greatness and usefulness of our profession, besides having the occasion spiced with wit and pleasure long to be remembered. More details will be given later on. This will be a red-letter day for the doctors of Indiana, and no man can afford to miss it. Come and bring your wives and sweethearts. F. C. Heath,

President Indiana State Medical Association.

Fort Wayne, Ind., April 25, 1911.

To the Editor:—The Fort Wayne Medical Society has secured two Pullman cars for the exclusive use of members and friends who desire to travel together to Los Angeles to attend the annual session of the American Medical Association. The two cars will be attached to the "A. M. A. Special," leaving Chicago over the Santa Fe road at 8 p. m., Wednesday June 21, and arriving at Los Angeles Monday, June 27. The train will make the side trip to the Grand Canyon, where a stop of twenty-eight hours will be made for the purpose of affording opportunity for seeing some of the grandest scenery on the American continent.

The railroad fare for the round trip from Chicago, including the Grand Canyon side trip, will be $69. The return trip may be made by any of the transcontinental lines out of Los Angeles or San Francisco. An additional charge of $15 will be made for return by any of the northern lines out of Portland, including the Canadian Pacific.

The Pullman rate from Chicago to Los Angeles, including the Grand Canyon side trip, will be $12.80 for a double upper berth, $16 for a double lower berth, $45 for a compartment and $56 for a drawing-room.

Tickets will be good for return trip on or before September 15, and are good for stopover anywhere west of the Missouri River.

Meals enroute will be served in the dining-car; breakfast and luncheon a la carte, dinner table d'hote.

Members of the medical profession who desire to join the Fort Wayne party are requested to write John E. Ross, Pennsylvania ticket agent, Fort Wayne, for reservations or further information. Reservations in the Fort Wayne cars should be made before May 25.

Charles E. Barnett,
Warren D. Calvin,
Elmer E. Morgan,
Committee.

DEATHS

Dr. J. S. Wilson of Mary died in March, after a long illness.

Dr. H. B. Spietal, aged 80, retired, died at his home in Radnor, April 14.

Dr. T. N. Bennett died at his home in Broad Ripple, April 12, after an illness of more than two years with Bright's disease. He was born in 1842, in Ohio, coming to this state twenty-five years ago.

Dr. O. M. Edwards, for many years a practicing physician of Greenfield, Ind., died recently at his home in Chanute, Kan.

Mrs. J. B. Greene, wife of Dr. J. B. Greene of Mishawaka, died April 27, after a short illness with organic heart disease.

Dr. William H. Hyten, aged 87, died at his home in Parkersburg, April 17. Dr. Hyten practiced medicine at Parkersburg nearly sixty years. He was born in 1823.

Dr. William C. Masin, the Medical Examiner of the Pension Office for thirty years, died early in April. During the war of the rebellion he served in an Indiana regiment.

Dr. John V. Baird died at his home in Albany, March 12. Dr. Baird was born in Jay County June 13, 1850, and began his career as a country school teacher. He began the study of law, but later gave it up for that of medicine. He began active practice in Albany in 1880, following his graduation. He was elected to the general assembly of Indiana in 1903.

Dr. T. A. Wagner of Indianapolis died of apoplexy, April 9, at St. Vincent's Hospital. Dr. Wagner was born in Grevenmacher, grand duchy of Luxembourg, Feb. 25, 1849. Shortly after the close of the Civil War he came to the United States, finding employment in Indianapolis as a salesman. He soon entered on the study of medicine, graduating with honors from the Medical College of Indiana in 1875. During the small-pox epidemic in February, 1883, Dr. Wagner volunteered his service in behalf of the sufferers. Contracting the disease, he went to the pest-house as a patient, where he made a thorough study of the disease. Dr. Wagner was elected coroner of Marion County in 1886 and reelected in 1888. He was a member of the Indiana State Medical Association.

NEWS, NOTES AND COMMENTS

Dr. and Mrs. Thomas J. Bowles of Muncie celebrated their golden wedding, April 14.

Dr. Max C. Van de Venter, formerly of Ligonier, is now located and practicing at Union Mills.

The regular meeting of the Union District Medical Association was held at Richmond, Ind., April 27.

Senator Owen again has introduced a bill into the Senate for the establishment of a department of public health.

Dr. Homer H. Wheeler wishes to announce the removal of his office to 708 Indiana Pythian Building, Indianapolis.

Dr. F. A. Williams has recently been appointed pension examining surgeon at Spencer in place of Dr. Joseph Coble.

The thirteenth annual meeting of the American Protologic Society will be held at Los Angeles, Cal., June 26 and 27, 1911.

Dr. Harrold Pierce of Cloverland is critically ill from blood-poisoning thought to have been contracted while assisting in operation.

A young physician contemplating a change of location will be interested in one of the commercial announcements in the advertising section.

The New York Post Graduate has plans and descriptions of its new school and hospital, at the International Hygiene Exhibit at Dresden, Germany.

The seventh annual meeting and banquet of the Fourth Councilor District Medical Association will be held at Greensburg, Thursday, May 25, 1911.

Dr. I. L. Neeley of Corydon and Mrs. Mary F. Neeley were married April 15. They were formerly married, but were divorced three years years ago.

Dr. T. Victor Keene has recently been notified of his appointment to succeed Dr. Paul F. Martin, June 1, as a member of the Indianapolis City Board of Health.

Dr. Frank McCool, formerly an intern at the City Hospital, Indianapolis, has taken office rooms with Dr. J. Q. Davis, 410-411 Rauh Office Building, 122 East Ohio Street.

The regular meeting of the Thirteenth District Medical Society was held at Elkhart, Tuesday, April 18. Following the scientific program a banquet was given at the Country Club.

The graduating exercises of the Williams Hospital Training School for Nurses at Lebanon, Ind., were held on April 26. Dr. W. N. Wishard of Indianapolis delivered the class address.

David Burstein, an Indianapolis druggist, was recently found guilty of violating the pure food law, and fined $20 and costs. Two affidavits were filed against Burstein for selling soda water which contained saccharin.

The Indiana State Nurses' Association held their eighth annual convention in South Bend at the First Christian Church, April 25, 26 and 27. Papers were read by Drs. Charles Bosenbury, G. W. Wegner and H. M. Miller.

The Methodist Episcopal Hospital, St. Vincent's Hospital, the Deaconess Home of Indiana and the German General Orphan Association are beneficiaries under the will of Anna Frances Blank, recently filed for probate in Indianapolis.

The May meeting of the Laporte County Medical Society promises to be an especially interesting one, as Dr. Fuller of Chicago will be present and a read a paper on "Infection of the Bile Tract, with Remarks on Its Surgical Management."

The first annual dinner of the St. Joseph County Medical Society was given at the Oliver Hotel, South Bend, May 1, at 6:30 o'clock. The event was a marked success. The dinner was attended by members of the society and their wives.

The trustees of Indiana University have recently acted favorably on the request that they allow Dr. Henry F. Alburger of the medical department of the university to come to Indianapolis to assume the position of pathologist at the City Hospital.

The Victor Electric Company announces the removal of its general offices and factory from the present location, 55-61 Market Street, Chicago, to its new building, which has recently been erected on the northwest corner of Jackson Boulevard and Robey Street, Chicago.

L. Aldridge Lewis, colored, of Nashville, Tenn., received the highest grade of any of the applicants for internships at the City Hospital and City Dispensary of Indianapolis. His average was 92⅝. He will be given the preference of a place at the hospital or dispensary.

The Methodist ministers of Indianapolis at a recent meeting voted to raise $2,500 to be donated to the fund now being raised for the erection of two new pavilions at the hospital, the money to be given by the ministers to be used in equipping a room in the new buildings.

Henry J. Huder, a druggist living in Indianapolis, has recently been arrested charged with selling paregoric in bottles not properly labeled. The law requires that if a medicine contain poisonous ingredients, the bottle must be labeled accordingly. It is expected that several other arrests will be made on the same charges.

The will of Alfred Burdsal of Indianapolis, recently filed for probate, gives the greater part of his estate, valued at $700,000, to the City of Indianapolis for hospital and park purposes, subject to a life estate for his widow. His private library and $1,000 in cash were bequeathed to the Indiana Tuberculosis Hospital at Rockville.

Plans for a two-weeks' campaign to raise $125,000 for a new south wing of the Methodist Episcopal Hospital, Sixteenth Street and Capitol Avenue, Indianapolis, have been completed, and the campaign opened May 2. The new wing will be four stories high and will accommodate sixty-five beds. This wing will make provision for a children's ward.

In commemoration of the first land engagement of the Civil War, which occurred at Phillippi, Barbour County, Va. (now West Virginia), on June 3, 1861, arrangements are now being made for a reunion of the "Blue" and the "Gray," to celebrate the fiftieth anniversary of the battle in connection with a "Home-Coming Week" at Phillippi, beginning May 29. Dr. G. W. H. Kemper of Muncie was present at the battle of Phillippi, and carried a musket.

Dr. Paul E. Bowers, a graduate of Indiana University School of Medicine in the class of 1907, has been appointed physician at the Indi-

ana State Prison at Michigan City. Dr. Bowers was in the government service at Cairo, Ill., and at Evansville, Ind., as physician in marine hospitals in those places. He later received an appointment at Washington as physician in the government hospital for the insane after successfully passing a civil service test.

The United States Civil Service Commission announces an examination on June 7, 1911, to secure eligibles from which to make certification to fill a vacancy in the position of medical intern, Government Hospital for the Insane, Washington, D. C., at $600 per annum, with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer or promotion.

A Meeting of the Alumni Association of the Indiana University School of Medicine is announced for May 29, 1911, at Indianapolis. A banquet at the Columbia Club at 7 p. m. with Dr. T. B. Noble as toastmaster and President W. L. Bryan, Dr. Miles F. Porter of Fort Wayne, Dr. F. R. Charlton and others as speakers will be the principal event on the program. This alumni association embraces the alumni of the combined schools from which the Indiana University School of Medicine has developed.

Drs. George B. Thomas and John Taylor, both of Maysville, Ky., died recently at the Hord Sanitarium, Shelbyville. Facts suggesting a suicide pact have come to light, inasmuch as both died of symptoms suggesting slow poisoning, within three weeks of each other, and before treatment at the sanitarium had begun. Neither would take the medicines prescribed by the house physician. An investigation following the death of Dr. Thomas led to the finding of an empty bottle concealed in his bedding, which is thought to have contained poison.

Since the publication of the April number of The Journal, the following articles have been accepted by the Council:

Accepted for N. N. R.:

Pasteur Antirabic Vaccine (American Biologic Co.).

Mulford's Predigested Liquid Food (H. K. Mulford Co.).

Accepted for N. N. R. Appendix:

Borcherdt's Malt Extract, Plain (Borcherdt Malt Extract Co.).

Borcherdt's Malt Olive with Hypophosphites (Borcherdt Malt Extract Co.).

Borcherdt's Malt Soup Extract (Borcherdt Malt Extract Co.).

Since April 1 the following articles have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. for New and Nonofficial Remedies:

Cargentos (H. K. Mulford Co.).

Cargentos Tablets (H. K. Mulford Co.).

Cargentos Rectal Suppositories (H. K. Mulford Co.).

Cargentos Vaginal Suppositories (H. K. Mulford Co.).

Cargentos Urethral Suppositories or Bougies (H. K. Mulford Co.).

Ovagal (Riedel & Co.).

Ovagal Capsules (Riedel & Co.).

Xerase (Riedel & Co.).

Xerase Capsules (Riedel & Co.).

SOCIETY PROCEEDINGS

INDIANA STATE MEDICAL ASSOCIATION

The following is a list of those who have paid Association dues between the dates April 1 and May 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the April number includes all those who paid dues to April 1, or up to 2137, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the March, April and May numbers constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No	Name and Address	County Society
2138	J. T. Newton, Clinton R. R. No. 4	Vigo
2139	M. H. Kutch, Terre Haute	Vigo
2140	N. D. Berry, Muncie	Delaware
2141	Noah Zehr, Fort Wayne	Allen
2142	J. M. Reynolds, Memphis	Clark
2143	N. S. Lindquist, South Bend	St. Joseph
2144	D. E. Douglas, East Enterprise	Switzerland
2145	O. H. Jones, Crawfordsville	Montgomery
2146	T. J. Creel, Angola	Steuben
2147	J. F. Cameron, Hamilton	Steuben
2148	T. B. Humphrey, Angola	Steuben
2149	A. J. Kimmel, Hudson	Steuben
2150	W. H. Lane, Angola	Steuben
2151	G. N. Lake, Pleasant Lake	Steuben
2152	O. G. McFarland, Hamilton	Steuben
2153	H. A. Nichols, Flint	Steuben
2154	Mary F. Ritter, Angola	Steuben
2155	P. N. Sutherland, Angola	Steuben
2156	O. H. Swantusch, Metz	Steuben
2157	W. H. Waller, Angola	Steuben
2158	Wm. F. Waller, Angola	Steuben

No.	Name and Address	County Society
2159	H. D. Wood, Angola	Steuben
2160	T. F. Wood, Angola	Steuben
2161	R. L. Wade, Fremont	Steuben
2162	Geo. Breedlove, Martinsville	Morgan
2163	Frank Maxwell, Martinsville	Morgan
2164	W. J. Sandy, Martinsville	Morgan
2165	Robt. Egbert, Martinsville	Morgan
2166	Guy Seaton, Indianapolis, Oliver Ave	Morgan
2167	O. A. Sweet, Martinsville	Morgan
2168	J. L. McBride, Zanesville	Wells
2169	J. C. Jolly, Lake	Spencer
2170	A. M. Benjamin, Wilkinson	Hancock
2171	O. P. M. Ford, Connersville	Fayette
2172	Emma G. Holloway, North Manchester	Wabash
2173	Wm. J. White, Gary	Lake
2174	C. M. Gillespie, Whiting	Lake
2175	Joseph Cramer, Blountsville	Henry
2176	C. E. Canaday, New Castle	Henry
2177	O. A. Newhouse, Montezuma	Parke
2178	T. J. Collings, Mecca	Parke
2179	J. I. Norman, Judson R. R. No. 1	Parke
2180	Robt. F. Hester, Bloomingdale	Parke
2181	J. A. Axline, Noblesville	Hamilton
2182	M. C. Haworth, Noblesville	Hamilton
2183	J. D. Sturdevant, Noblesville	Hamilton
2184	J. E. Hanna, Noblesville	Hamilton
2185	E. E. Wishard, Noblesville	Hamilton
2186	E. C. Loehr, Noblesville	Hamilton
2187	A. R. Tucker, Noblesville	Hamilton
2188	F. A. Tucker, Noblesville	Hamilton
2189	W. B. Graham, Noblesville	Hamilton
2190	H. H. Thompson, Noblesville	Hamilton
2191	Z. H. Fodrea, Westfield	Hamilton
2192	L. J. Baldwin, Westfield	Hamilton
2193	A. A. Bond, Westfield	Hamilton
2194	T. O. Redden, Jolietville	Hamilton
2195	E. A. Rainy, Jolietville	Hamilton
2196	B. A. King, Cicero	Hamilton
2197	C. H. Tomlinson, Cicero	Hamilton
2198	Frank Rodenbeck, Arcadia	Hamilton
2199	C. C. Ray, Arcadia	Hamilton
2200	J. L. Hicks, Arcadia	Hamilton
2201	L. J. Bills, Atlanta	Hamilton
2202	E. A. Mills, Miami	Miami
2203	F. C. Hess, Cadiz	Henry
2204	W. A. Smith, Otterbein	Benton
2205	E. M. Conrad, Anderson	Madison
2206	J. R. Tracy, Anderson	Madison
2207	C. D. Shurtz, Alexandria	Madison
2208	H. W. Sigmond, Crawfordsville	Montgomery
2209	H. E. Greene, Crawfordsville	Montgomery
2210	T. Z. Ball, Waveland	Montgomery
2211	A. C. Chenowith, Chalmers	White

EIGHTH DISTRICT MEDICAL SOCIETY

The spring meeting of the Eighth District Medical Society was held in Portland, April, 1911. The first paper was by Dr. E. D. Clarke, of Indianapolis, on "Gall Stones." This very practical paper emphasized many good points, most important of which were: (1) That it is best to diagnose, "An infected condition of the gall bladder requiring drainage," rather than "gall stones," as the former condition is always present, while the latter diagnosis is very frequently disappointing; (2) The etiologic factor that gall stones exercise in chronic pancreatitis, every case of the latter showing the former.

In the discussion, Dr. Geo. R. Andrews, of Muncie, brought out the point that all cases of malignant disease of the gall bladder show pre-existing gall stones. Dr. M. A. Austin, of Anderson, discussed the technic and the advantage of palpating the gall bladder during every laparotomy, as so many people show no symptoms when the condition is present. The Hon. Emerson McGriff, of Portland, an honorary member of the Society, also discussed the paper, and inquired as to the value of x-rays in diagnosis. Dr. Paul F. Martin, of Indianapolis, developed a statement from the original paper, that there are no gall stones, except from a primary infection of the biliary tract; also that only 5 per cent. of the people showing gall stones suffer any inconvenience therefrom. Dr. W. D. Schwartze, of Portland, reported some of the Mayos' findings. He stated that x-rays would not locate non-calcareous stones. Dr. G. W. H. Kemper, of Muncie, reported some of Dr. Bobbs' cases, also two or three very interesting cases occurring in his early practice. Early operation for gall stone was called "Lithotomy of the Gall Bladder."

The afternoon program consisted of a paper by the Hon. L. Ert Slack, of Franklin, on "The Subject of Health." Mr. Slack's paper was closely followed and heartily applauded. Seldom has a layman so impressed a professional body with his earnestness and his clearness of views. Mr. Slack pleaded for a broader conception of the healing art, with especial attention to the power of the mind and the necessity of getting the patient's mind in proper attitude. His conception of the present day physician was a little too antiquated, perhaps, but seemed to emphasize the points of his paper.

The discussion was opened by Dr. B. S. Hunt, joint senator from Randolph and Jay counties, who refuted many statements of Senator Slack, and spoke favoring the new Owen Bill for a Federal Department of Health. Dr. M. T. Jay, of Portland, followed with a ringing denunciation of a government which would spend $3,000 to cure a hog of cholera but not one cent to save a sick baby. Judge Lafollette and Rev. Dunbar, of Portland, both helped to smooth out the tangled skein of discussion, and the meeting adjourned at 4:30.

The following officers were elected: President, I. N. Trent, Muncie; vice-president, C. E. Caylor, Pennville; secretary-treasurer, Fred McK. Ruby, Union City.

Adjourned. Fred McK. Ruby, Secretary.

THIRTEENTH DISTRICT MEDICAL SOCIETY

The Thirteenth District Medical Society held its semi-annual meeting in the Century Club at Elkhart on the 18th of April. Six papers were read and discussed in the afternoon session, which was followed by a banquet and toasts. The society has been fortunate in its last three meetings in having each man who was down for a paper present with his paper. This meeting was the biggest in the history of the society, even going ahead of the Rochester meeting which was held in October, 1910.

The next meeting of the society will be at Wawasee Inn, Wawasee Lake, in the early part of September.

ALLEN COUNTY

Fort Wayne Medical Society

Meeting of February 14

Society met in the assembly room with twenty members present. Dr. H. A. Duemling read a paper on "The Modern Indications for Cesarean Section." The essayist reviewed the history of Cesarean section from the time of its introduction to the present date, making

mention of the fact that the operation was all but discarded until the advent of antiseptic surgery; but from that time until the present day the operation has been performed more frequently. Accepting all the old so-called absolute indications for the operation, there must now be added several new ones. The most important of these in the opinion of the essayist are the following:

1. Puerperal eclampsia with non-dilatable os.
2. Placenta prævia centralis.
3. Impacted shoulder in transverse presentations.
4. Adhesions about uterus, the result of septic inflammations occurring during the later months of pregnancy.

He mentioned the report of 147 cases of pregnancy complicated by appendicitis and brought out the fact that the cases which aborted after the pregnancy had continued seven months or longer died; that in a number of cases the labor and delivery occurring after apparent convalescence of the septic peritonitis precipitated a new attack of peritonitis with a fatal issue. The explanation is this: The septic peritonitis causes numerous adhesions about the pregnant uterus, which lock up a lot of septic material, which in time becomes innocuous. But if the labor sets in before this time, then the still virulent material is set free by the sudden reduction in size of the uterus and the consequent breaking up of adhesions and a septic peritonitis results. Two such cases have come under the observation of the writer and both were treated by Cesarean section with most gratifying results, i. e., living mothers and babies.

Dr. Porter opened the discussion by saying that he was in hearty accord with all that Dr. Duemling had said. He would make a wider field for the operation of Cesarean section. In cases in which the choice stands between high forceps application and Cesarean section he would rather do a section, it gives the mother a better chance, and the risk to the child, so far as mortality and morbidity are concerned, is less. The risk of section is no more than a normal labor in a normal mother. High forceps means high death-rate and injured children. Thirty per cent. of children injured by high forceps, are permanently injured and many of these develop epilepsy. Considering these points you have my reasons for preferring section. In faulty position, with large pelvis, where position can be changed I would use forceps. Wherever you have adhesions to uterus (dense) it is an indication for section. In several women who have had appendicitis during pregnancy, found on opening the belly that adhesions were trivial. Would not do a Cesarean section under these conditions of rigid os; nick the cervix and dilatation takes place rapidly. The cases of agglutination of the os are not an indication for section. So far as leaving scar in the uterus is concerned, my judgment is that later findings will show that you will have more lacerations following vaginal section because the scar tissue begins where most dilatation occurs. The number of lacerations following Cesarean section will be few. No good surgeon should tear the bladder in doing vaginal section.

Dr. B. Van Sweringen said there is no one who has had much obstetrical work but who, when contrasting high forceps and section, is in favor of section. Has done version in old primiparæ and lost more babies than he has saved, and much prefers section. In those cases where child presents by breech, where head must be dragged through undilated and undilatable cervix, he believes there is much less danger to baby in section. The difficulties of the two operations are not to be compared. He thinks it possible that some years ago he would not have thought of recommending section in case reported, but should have tried slitting cervix before doing section. In his opinion the pendulum will perhaps swing too far the other way, but will finally come down and section will be more frequently performed.

Dr. Morgan said that most physicians do high forceps without much damage; however, if everything is handy to do a section it will save much suffering for the mother. No surgeon has the right in this day to do a craniotomy. The mother should be consulted in these cases.

Dr. B. Van Sweringen said obstetrical work should be done in hospitals, because there things are in readiness to meet emergencies, but of course it is impossible to get all cases to go to the hospital. He was much impressed by someone's remark that it is mighty easy to sit in your office and theorize. When the doctor is called to a home he forms his ideas of labor; friends advise that something be done; forceps are applied and they fail; a consultant is called, and not being willing to accept the word of the attending physician, i. e., that it is impossible to deliver with forceps, the consultant makes an attempt at delivery and fails. It is not until then that section is recommended, and it is under these circumstances that the operation acquires the high mortality rate.

Dr. Hamilton said the fetal mortality in high forceps delivery at Sloan Maternity Hospital shows 50 per cent. dead children; and this work is always done by experts at this institution.

Dr. Rawles asked what per cent. of children thus born are mentally deficient. Dr. Wilking asked as to the result in subsequent pregnancy in cases that have had section performed.

Dr. Beall, in reply to the point raised by Dr. Van Sweringen that women should be delivered in hospitals, said that the record of 2,000 cases in Chicago outpatient clinic shows that women can be delivered outside of hospitals with safety. These cases are taken from the slums of Chicago where the surroundings are dirty. The conditions can be made ideal in almost any surroundings.

Dr. Porter said that we are coming to pay less and less attention to emptying the uterus in eclampsia for its effect on eclampsia. The results of treatment of eclampsia by this method gives a less mortality of the mother than when they emptied the uterus in every case. This fact has a bearing on doing section for eclampsia in primipara. Believes he would do section through belly in these cases.

Dr. Weaver said the subject of eclampsia is a little off the line of discussion. However, Zinke speaks of just that point; he has latterly allowed his eclamptics to go on without much trouble; his mainstay is veratrum. While his maternal mortality has dropped, the infant mortality is high. There need not be post haste in doing Cesarean section; it may be done slowly after child is delivered, the same as an ordinary hysterectomy.

In closing Dr. Duemling said that high forceps operation is more difficult and dangerous than Cesarean section. He has seen deep and alarming shock following tearing of abdominal adhesions. He delivered a woman on whom a ventrosuspension had been done; extreme shock followed delivery. Hirst has had same

experience. Believes with Dr. Weaver that there is no hurry in doing section. Dr. Sweringen brings out a good point: do not delay until every doctor has handled case, after child is dead and you are likely to lose mother. In series of ten cases operated, two have become pregnant again and were safely delivered by physicians in this city. The loss of blood in section is slight, no more than that lost in the ordinary lying-in chamber.

Motion carried that president appoint a committee of three for the purpose of arranging for a car or cars for the Los Angeles meeting.

Adjourned. G. Van Sweringen, Secretary.

Meeting of February 14

Society met in regular session in the assembly room with fifteen members present. Case reports. Dr. Bulson presented two cases.

Case 1.—Macular detachment of the retina. Young man injured ten days previously in game of basket ball. Received a blow on the eye with the hand of one of the players. Was given a boracic acid lotion, and was thought to be but slightly injured. On the following day patient discovered that vision was very dim in that eye. Examination showed a small detachment of the retina in the region of the macula. Dr. Bulson stated that this particular form of detachment was rather uncommon, inasmuch as the area affected was very small, but that owing to the fact that it was in the macular region it would have a very serious effect on vision. Patient was placed in a recumbent position in the hope of securing reattachment and some improvement of vision, but prognosis generally unfavorable.

Case 2.—Extra-ocular malignant growth of the orbit. Young man was first seen last September and presented a slight fulness of the left temple in the region of the external canthus, also marked proptosis. No limitation of movement or impairment of vision. Slight tenderness on pressure and complaint of dull aching pain. Orbital wall at the external canthus involved. No involvement of the eye-ball. No history of syphilis, but a history of injury at the external canthus several years before. Patient advised that trouble was probably a malignant growth, but given potassium iodid and mercury in large doses as a therapeutic test. Patient not seen again until a week ago when he returned with the fulness of the temple much more pronounced and greater involvement of the orbit at the external canthus. Operation advised and accepted. Tumor found involving all of the external orbital rim and the bones of the orbit down to the sphenomaxillary fissure. Orbit exenterated and all diseased bone removed as thoroughly as possible. The pathologist reports the growth to be spindle-cell sarcoma. Patient is now receiving Coley's fluid and *x*-ray treatment.

"First Aid to the Injured Eye" was the title of a paper presented by Dr. Norma B. Elles, in which she gave many practical points concerning the procedures to be adopted for the relief of ocular injuries.

"Trauma of the Eye" was the title of a paper by Dr. Albert E. Bulson, Jr. The commoner injuries of the eye were enumerated, together with the complications produced. Particular attention was called to the danger of infection following even slight injuries, and the serious results attending pneumococcus infection in operations of the cornea. The dangers of injuries in the ciliary region were also discussed, together with the indications for enucleation of injured eye-balls.

In opening the discussion, Dr. Gardner said that there is no injury of the eye so trivial that it should not have immediate attention. Infection is liable to be present and produce very serious results. Sympathetic ophthalmia sometimes occurs in connection with injuries and is a grave affair. The exciting eye should be enucleated at once.

Dr. Gross asked why lead solution should ever be used as an eye wash, and why irrigation of the eye with acetic acid solution does not dissolve the corneal opacity produced by lead when a lead solution has been used.

Dr. Duemling deprecated the practice of instrumental interference with an eye by the general practitioner He emphasized the importance of the "let-alone" policy except for efforts to carefully irrigate the eye or prevent infection by covering the injured organ.

Dr. Glock said that much damage is done by friends of the patient, and this is particularly true in factories where bookkeepers or foremen act in the capacity of a physician and make unskilled attempts to remove foreign bodies, thereby often making the patient much worse than he was before. He reported a case where a man chewed a toothpick into a brush and removed a cinder from the eye of a fellow-workman. Pneumococcic infection resulted and the eye was afterward enucleated.

In closing the discussion Dr. Elles said that first aid to the injured eye consisted in the use of only the simpler remedies, and no astringents nor escharotics. The use of instruments except by those skilled in their use is unjustifiable.

In closing Dr. Bulson said that the older text-books recommend the lead wash in the treatment of various mild conjunctival inflammations, and that such treatment may not be injurious, though it is attended with serious results if there is an abrasion of the cornea which permits the lead to infiltrate the corneal tissues and produce a permanent opaque deposit which will interfere with vision. Dr. Pulliam asked if alcohol should be used in the eye when carbolic acid has burned the cornea. Dr. Bulson said that unless there is a considerable quantity of carbolic acid the damage principally falls upon the epithelium which is destroyed, but will probably regenerate. The damage is usually done before it is possible to obtain any good effects from the use of alcohol. The cul-de-sac frequently holds foreign bodies without producing much irritation, and he reported a case where a piece of whalebone ¾ inch long remained in the upper cul-de-sac for two weeks, and the patient finally sought relief because of the redness and mucous discharge from the eye rather than from discomfort produced from the foreign body.

Dr. Morgan asked if the ophthalmia neonatorum bill before the present legislature is a wise one, if it compels the use of silver solutions in every case, and whether or not some cases will not get along all right by the use of boric acid. Dr. Bulson answered that there is no harm done in using one or two per cent. solution in every case, and it is positively indicated in all suspicious cases. A 25 or 50 per cent. argyrol solution is recommended by some and is an excellent antiseptic, but its efficacy is doubted in virulent gonorrheal infections. No silver solution should be used for a prolonged period owing to the danger of staining or argyrosis.

On motion a withdrawal card was granted to Dr. C. W. Gordon. Apropos of submitting copies of discussions to the author, Dr. Porter suggested furnishing a typewriter to the secretary. Dr. Bulson suggested that the secretary might avail himself of the services of his (Dr. Bulson's) stenographer.

Dr. Bulson reported that a bill was before the legislature having as its object the deposing of Dr. Hurty from the State Board of Health. On motion the society expressed opposition to the bill, and the secretary was instructed to telegraph the Allen County senators and representatives and also Governor Marshall to the effect that the society is opposed to the bill.

Adjourned. J. V. Wilking, Secretary pro tem.

Meeting of February 21

Society met in regular session in the assembly room with nineteen members present.

The program of the evening consisted of a symposium on gastric ulcer; Dr. C. G. Beall discussing "The Medical Side of Gastric Ulcer;" Dr. D. D. Johnston, "The Pathology of Gastric Ulcer;" and Dr. B. Van Sweringen, "The Surgery of Gastric Ulcer."

Dr. Beall demonstrated a rapid and simple method for determining the quantity of free HCl and the total acidity. The tests for free acid, lactic acid and occult blood were also demonstrated.

Dr. B. Van Sweringen said that the surgical treatment of ulcer of the stomach resolves itself into the procedures necessary to meet the accidents of acute ulcer, i. e., perforation and hemorrhage, and excision or gastro-enterostomy for chronic ulcer. We have also at times to employ measures for the relief of conditions arising by reason of the contraction consequent on the healing of an ulcer, namely, hour-glass stomach and contraction of the pylorus. Perforation of the stomach is a very serious accident. Perforated gastric ulcer is often mistaken for acute appendicitis. The best method of dealing with perforated ulcer is immediate laparotomy. Close in the ulcer with Lembert stitches. When this is done if it is found that the pylorus is very much narrowed (in case the location is in this region) gastro-enterostomy is added and the abdomen sponged out and closed without drainage. Should the perforation be near the cardiac end much the same course is pursued, although some elect to excise the ulcer. When the ulcer is located on the posterior wall access to it is gained through an opening made in the anterior wall of the stomach. When hemorrhage is the indication for operation the bleeding point is sought in much the same way. If the ulcer is on the anterior surface the vessels leading to it may be ligated and a gastro-enterostomy done. When found on the posterior surface the bleeding point may be reached through an incision in the anterior stomach wall as detailed above.

Surgery has established for itself a secure position in the treatment of chronic ulcer. The percentage of cures is larger than by medicinal measures and the result more quickly obtained. In addition where excision is done the danger to cancer is minimized. The operation of choice in these cases has been gastro-enterostomy and it is not too much to say that in the majority of cases it has proved satisfactory.

Dr. Johnston was present, but through a misunderstanding did not have his paper with him.

Dr. McCaskey, in opening the discussion, spoke concerning laboratory methods. The method which he has finally resorted to after using many different ones, is much the same as the one described by Dr. Beall in his paper. Instead of taking 5 c.c. he uses 2 c.c. of gastric juice in tube graduated to 1/5 c.c. Every pipette must be standardized. Puts phenolphthalein in same solution to determine total acidity.

Regarding peptic ulcer in general the pathology is still unknown. There are a number of theories regarding the production of peptic ulcer, but none are satisfactory. Dr. Beall referred to the toxic theory. The work of Turk seems to show that by cytolysis, combined with the action of toxins and HCl and pepsin, produces necrosis. Whether it is cytolysis or any other cause, an ulcer is produced that would heal but for the irritation of the gastric juice. Enzymes in circulation may attack gastric mucosa and cause ulcer; the gastric juice perpetuates the ulcer. The diagnosis of a typical case of gastric ulcer is usually easy, but it may be difficult. Hyperemesis may be from other causes; tenderness may be present in other conditions; the introduction of the stomach tube may produce blood in stomach contents. More importance should be attached to blood in the stool. Testing the stool for blood is not so easy. Certain importance may be attached to the presence of blood, pus cells, tenderness, etc., and a diagnosis may be based on these findings. Tumor may be present. Found a case ten years ago with free hydrochloric acid; decided in favor of gastric ulcer; would not do so now, but the history of this case proved the correctness of the diagnosis. We should endeavor to see every case through a long period of time, and not be satisfied with simply putting case to bed and when the symptoms subside allow them to go without further treatment, because of the very great danger of having cancer develop on the ulcer site. He is in favor of putting these cases to bed without any food for six or seven days. Where there is a continuous secretion of hydrochloric acid starvation does little good. In every case except those mentioned above would starve patient. He gives one large dose of bismuth subnitrate once daily. The patient before referred to took ninety grains a day. Adhesions occur in 90 per cent. of all cases; in 75 per cent. the stomach is glued to omentum and surrounding structures. He has seen cases of gastric ulcer with an acidity.

Dr. M. F. Porter said that if HCl cuts as much of a figure in peptic ulcer as it is supposed to do, we would expect to have ulcer frequently in cases of gastro-enterostomy. Can recall but one case report of ulceration in this condition. Is not inclined to attach much importance to it in the production of peptic ulcer. He has been able to recall a number of cases of gastric ulcer that had alarming hemorrhages, and they certainly ran more danger to life than they would by gastro-enterostomy. Has known two cases lately, one dead and a post mortem held; the other soon will be dead, from carcinoma engrafted on an old gastric ulcer. Gastric ulcer, so far as mortality and morbidity are concerned ought not be treated medically. The so-called cures of medically-treated cases are not cures. He has never seen a man or woman who died of gastro-enterostomy for ulcer. Seventy-one per cent. of the cancers in the Mayo clinic resulted from ulcer. The case to which Dr. McCaskey referred is not at an end yet: he will wind up with gastric carcinoma.

Dr. McCaskey referred to a point raised by Dr. Porter. In cases of gastric ulcer where excision of ulcer is done every particle of indurated tissue should be removed because of the danger of secondary malignancy in the site of this induration.

Dr. Porter said if excision would be accompanied by great risk, have a frozen section made at the time of operation.

Dr. Duemling said that many times these indurated areas are so great and so located that it is impossible to remove them. If it is possible to remove these areas it is the thing to do, but if their removal contemplates pylorectomy, would rather do posterior gastro-enterostomy. When you have a perforating duodenal ulcer the first thing noticed on opening the abdomen is a gelatinous, bile-stained material.

Dr. Weaver said those who are interested in gastric ulcer-cancer occurrences, will find in the Mayo report the history of 150 cases in which they could prove definitely the occurrence of cancer engrafted on an ulcer base. In seventy-one cases ulcer was present at the time of operation. Suppose you excise a piece of the indurated area and submit it to a pathologist; you might miss the epithelial inclusions completely. Monyhan says severe recurrent hyperchlorhydria means duodenal ulcer; and he does not wait for other symptoms to develop. Says tenderness in duodenal ulcer is to right of mid-line and to the left of mid-line in gastric ulcer, with the presence of so-called lumbar pain.

Dr. E. E. Morgan said his experience in gastro-enterostomy had been limited to cancer cases. Asked what effect it had on digestion in ulcer cases.

Dr. Beall, in closing, spoke of a point which had been omitted, that in one-third of all cases there is a tender spot to the left of lower dorsal spine. He asked why cancer does not involve the duodenum.

Dr. B. Van Sweringen, in closing, said, in answer to Dr. Morgan, that patient's condition is better and his nutrition also. There was a reaction as to the frequency in which different men performed gastro-enterostomy. When it first came into use some cases were improperly done, some argument whether there was closure of opening. They live without closure of the opening. What his paper emphasized was the value of excision, which is the coming operation. One of the most valuable suggestions is that these adhesions can be separated.

Adjourned. G. Van Sweringen, Secretary.

GREENE COUNTY

The Greene County Medical Society met at Switz City, April 13, with vice-president H. R. Lowder in the chair. Minutes of preceding meeting read and approved.

Dr. F. A. Van Sandt, of Bloomfield, read a paper on "Some of the Commoner Diseases of the Eye." He emphasized the importance of having your patients go to an able man to have their eyes tested, as so often small errors of refraction were productive of results entirely out of proportion to the error existing. When an instillation of Jequirity infusion is used for pannus it should be used heroically the first time as afterwards there seems to be an immunity established to its further use.

Dr. L. A. Hyde, of Linton, read a paper on "Tonsils and Adenoids." He prefers the use of the snare in the removal of tonsils. He made special mention of the examination of school children, as not only does the removal of adenoids in these children increase their mental ability, but also prevents future invalidism.

Adjourned. August F. Knoefel, Secretary.

HUNTINGTON COUNTY

The Huntington County Medical Society met in regular session April 5. An interesting paper was read by Dr. W. S. Grayston on the subject, "Suppurations of the Hand and Their Treatment." Dr. Grayston stated that Kanavel in 1905 dissected out the hand very thoroughly and determined that there are five large spaces on the hand, two on the dorsum and three on the palmar surface, that may become the seat of suppuration. The thenar and middle palmar spaces are the ones most often involved, and with severe results, as these drain the thumb, index and middle and ring finger, the ones usually injured and most easily infected. The prophylactic treatment is a copious dressing of a hot saturated solution of boracic acid. When pus is present a free incision should be made. The thenar space is best drained by a through-and-through incision to the radial side of the first metacarpal bone. The middle palmar space is best drained by through-and-through incision between the metacarpal bones of the middle and ring fingers.

Dr. Chas. L. Wright, in discussing the paper, said that many of the infections of the hand may be greatly benefited by the use of Bier's treatment.

Dr. R. Q. Taviner read a paper on "Acetanilid as a Habit-Forming Drug." Dr. E. T. Dippell opened the discussion by stating that if many of these patients complaining of chronic ailments were more carefully questioned and examined, it would be found that many are only suffering from the effects of acetanilid poisoning in a chronic form. This is usually taken in some form of headache powders or antipain pills.

Dr. Dippell showed a specimen of horseshoe kidney, presenting one large artery and four smaller ones. The kidney was located just over the last lumbar and first sacral vertebræ. The kidney was firmly anchored, although a physician sometime previously had made a diagnosis of floating kidney. Dr. Dippell had examined the urine and found a normal urine at all times. The patient died of carcinoma of the bowels.

The society directed the President to appoint a committee to revise the by-laws and have copies of the constitution and revised by-laws printed.

Adjourned. R. Q. Taviner, Secretary.

KUSCIUSKO COUNTY

The April meeting was held on the 25th instant. Dr. H. T. Montgomery of South Bend read a paper on "Heredity." As the paper was not confined alone to the strictly medical aspect of the subject, some of the lawyers and educators of Warsaw and Winona were present. The entrance of these guests into the discussion aided very materially to broaden the viewpoint and increase the interest of the meeting. Those entering into the discussion were: Profs. Cory and Pearce of Winona College; Judge Bowser; Lawyers Royse, Shane and Frazer; Doctors Bowser, Long, Young, Burket, DuBois, Anglin, Sowers and Howard. A vote of thanks was extended Dr. Montgomery for his courtesy in coming before the society and presenting such a scientific, thoroughly prepared paper. The application of Dr. J. H. Sowers, North Webster, for membership was referred to the Board of Censors.

Adjourned. C. Norman Howard, Secretary.

MARSHALL COUNTY

The April meeting of the Marshall County Medical Society was held in the office of Dr. Preston, in

Plymouth. Dr. Parker read a paper on "Anterior Poliomyelitis," Dr. Wiseman read a paper on "Differential Diagnosis of Scarlatina and Rotheln"; and Dr. Preston read a paper on "Adenoids." The papers were well discussed.

Three applications for membership were received.

Adjourned. J. W. Eidson, Secretary.

MIAMI COUNTY

The Miami County Medical Society met in regular session in Peru, March 31, with eleven members present. Dr. H. E. Line presented a case of Vincent's Angina. Dr. E. H. Griswold reported a case of didelphic uterus in a multipara aged 28. He also presented specimens of paraffin bodies removed from inguinal canal at operation for hernia in a man who had submitted to the so-called "injection cure" several months previous. Dr. B. S. McClintic read a paper on "Erysipelas with a Case Report." Patient treated with Coley's Bacterin with good results.

Adjourned. P. B. Carter, Secretary.

MONTGOMERY COUNTY

The regular meeting of the Montgomery County Medical Society was held March 21. The subject for the evening was Chorea, Dr. Burkle presenting the paper. The essayist assumed that Chorea is a specific disease, due to a special organism. In the discussion which followed Drs. Ensminger, Straughan, Jones and Beatty cited cases in which they considered the disease due to a reflex.

A resolution was passed endorsing the action of Dr. Swank in inspecting dairies and the milk supply of Crawfordsville, also expressing confidence in him as a health officer.

The February meeting was clinical, and Dr. Burkle presented a case of irreducible inguinal hernia. The tumor was of large size. Dr. Barcus recommended operation as the only cure; other physicians recommended dieting to reduce the size of tumor and add to the comfort of the patient.

Dr. Burkle was selected to read a paper at the district meeting, to be held at Kokomo in May.

Adjourned. J. L. Beatty, Secretary.

PUTNAM COUNTY

Meeting of April 11

The regular meeting of the Putnam County Medical Society was held in Greencastle, April 11. Drs. T. B. Noble and F. C. Heath, of Indianapolis, were present, and each gave a splendidly interesting and instructive talk; Dr. Noble on "Cancer of the Uterus," and Dr. Heath on "Some Eye Symptoms in Connection with Other Diseases." There were present visitors from Montgomery, Hendricks and Clay Counties. After the program was completed, the members and visitors adjourned to the Crawford Cafe, where a lunch was prepared, and a pleasant hour was spent in getting acquainted and renewing old acquaintances.

Adjourned. E. Hawkins, Secretary.

ST. JOSEPH COUNTY

Meeting of April 3

The St. Joseph County Medical Society met in regular session April 3. Dr. Bosenbury presented the following case: Boy, aged 17, in childhood had acute articular rheumatism, recurring five years ago, also twice since that time, and each time with a heart complication. A week ago presented himself with shortness of breath, weakness and inability to perform light work. Inspection: Diffuse and forcible apex beat, pulsation above clavicle and also in suprasternal notch. Palpation confirmed inspection; maximum intensity in sixth space and anterior axillary line; no thrill over apex, but thrill in right supraclavicular space and area over carotids; the thrill is synchronous with systolic sound. Percussion: Heart dulness corresponds to third interspace on left and one-half inch to right of sternum and to mid-axillary line on left. Enlargement is to the left. Auscultation: Systolic murmur over mitral area varying in quality but of a blowing character and is transmitted to left and in left subscapular region is again pronounced. This sound obscures the second sound. In aortic region two murmurs, systolic and diastolic, are transmitted down over the sternum to the right with diminished intensity. Over carotids a rough systolic and blowing diastolic. Clubbed fingers, especially thumbs, capillary pulse in fingers; water-hammer pulse. Case is mitral and aortic regurgitation. Moderate exercise and exertion will enable him to lead a useful and pleasant life.

Dr. Gammock presented the following case: Girl 3 months old. Spina bifida which has been present since birth. Tumor mass in sacral region, red and fluctuating. Cover is cicatricial tissue and not skin. Three classes of cases: (1) Hernia of spinal meninges; (2) with some of cord; (3) with whole of cord included. Dr. Gammock believes the case presented to belong to second class.

Dr. Miller is of the opinion that the patient will die without operation, and that an operation in these second class cases offers little hope. The injection treatment is the only thing that offers much hope. The ideal condition for these cases is light exercise or occupation in open air, keeping up of general condition, the employment of measures to combat anemia, and use of graded exercise.

Dr. C. E. Varier said that prognosis should be guarded. Greatest factor in causing broken compensation is over-exertion, and patients should be told never to become short of breath.

Dr. Lent spoke of a case that lived eighteen years after such a heart lesion, dying at age of 68. Dr. Butterworth said this case was identical with one he formerly presented, who is still living and doing house work. Dr. Eastman said he had a girl patient, who for a year was in such condition that she could not go about. At present she is married and has three children. Murmur is gone.

In closing the discussion Dr. Bosenbury asked, in reference to Dr. Gammock's case, if prenatal impressions have any influence on these cases of deformity. Prognosis grave. Fluid injection the only thing to try.

Dr. Eastman reported a case of diphtheria in a girl 5 years old, to whom he gave five thousand units of antitoxin; to a brother of 4, one thousand units, and to a little baby, five hundred. The boy an hour later was gasping for breath, had pain in neck and abdomen, and was in critical condition, but recovered.

Dr. Baker read a paper on "The Physical Signs in Phthisis Pulmonalis." Discussion by Drs. Lent, Miller, Shanklin, Bosenbury and Baker.

Program committee announced that plans had been made for the first annual social banquet of the St.

Joseph County Medical Society, to be held at the Oliver Hotel, May 1, at 6:30 p. m.

Adjourned. R. C. Shanklin, Secretary.

Meeting of April 10

Society met in regular session with fifteen members present. Dr. Bosenbury reported that his case was improving.

Dr. Miller presented the following case: German, 45 years of age; carpenter; family history negative; personal history negative. Last October began having pains in legs, at first below then above knees; no other pain. Most intense in knees and ankles with some tenderness. Eruptions on both legs from hips down, with tender spots and nodes, the latter raised, with distinct border, red in color and very tender to touch. Pain and eruptions are increased by work or exercise. Urine at first gave sugar reaction, but this was found to be due to salicylates. Later specimen normal. Blood showed simple anemia. Diagnosis: Schoenlein's disease of peliosis rheumatica.

In the discussion Dr. H. T. Montgomery said this condition is usually described as purpura rheumatica. The hemorrhages are not confined to the surface but are as pronounced in the deeper tissues. The anemia has nothing to do with the disease, but there is present a peculiar condition which causes the red blood-cells to escape into the tissues. Very probably a toxemia.

Dr. Butterworth asked if the limb had the appearance of a lymph-angitis. (Answer—No.) Dr. Sensenich asked if the hemorrhages come in crops. (Answer—Yes.) Dr. Bosenbury asked if Schoenlein's disease and purpura hemorrhagica are the same disease? (Answer—Yes.) He said it occurred to him that this disease is very similar to erythenia nodosa.

Dr. Miller said he did not believe there were any deep hemorrhages. Nodes inflammatory and not hemorrhages. All hemorrhagic diseases related. Prognosis good. Probably a toxemia. Will treat with salicylates.

Dr. W. A. Hager presented a piece of china ⅞x1x 1⅛ in., removed from the nasopharynx of a child 1 year old. The child inserted the piece about 10 a. m., and soon after began to cry and have hemorrhages from nose and mouth. Under anesthesia the piece was removed and child made good recovery. Similar cases were mentioned by Drs. S. L. Kilmer, C. E. Varier and C. S. Bosenbury.

Dr. Terry being absent, Dr. Montgomery read his paper on "Immunity." Discussion by Drs. C. S. Bosenbury, W. A. Hager, H. F. Mitchell, H. M. Miller, S. L. Kilmer, R. L. Sensenich, R. C. Shanklin, E. J. Lent, and H. T. Montgomery.

Dr. E. R. Dean, as chairman on J. R. Kissinger case, reported that Mr. Kissinger is now receiving one hundred dollars per month from the U. S. Government, and thanked the Society for their interest in his welfare.

Secretary read letter from Dr. C. N. Howard, of Warsaw, Secretary of the Thirteenth District Medical Society.

Dr. Shanklin moved that a committee of three be appointed to call on the mayor, and request his influence in suppressing the use of firearms and fireworks on the Fourth of July. Carried.

Adjourned. R. C. Shanklin, Secretary.

Meeting of April 17

Society met in regular session in South Bend, with sixteen members present. Dr. Owen reported a case of hemophilia. Patient, man, bank clerk; family history negative; has had rheumatism of severe type, also several attacks of subcutaneous hemorrhages, which formed enormous sacs of fluid blood, which on withdrawal would not coagulate. Adrenalin, gelatin and calcium chlorid had no effect. The cavities left after withdrawal of the blood were always filled with a saturated solution of quinin sulphate which stopped further hemorrhage. Present illness affected region of throat, the premonitory symptoms being those of a slight "sore throat" for about one week. On examination there was no involvement of the mucous membrane of the throat. Next evening (October 24) a nodular swelling appeared on each side of neck, just below angle of lower jaw. This increased and was most evident in pharynx and oral cavities, until at last the tongue was pushed up to roof of mouth, completely filling oral cavity. Breathing was difficult, swallowing impossible, and the case apparently hopeless. Temperature rose to 104 degrees, pulse 140. Adrenalin, thyroid extract, calcium chlorid, and gelatin subcutaneously were all used to their limit. Hemorrhage in throat finally ceased. The site of the gelatin injection filled with blood which disintegrated; sloughing of the parts followed. Patient very septic. Is now gaining rapidly and shows no unfavorable symptoms.

Dr. Hillman outlined a similar case. Dr. Montgomery's question, "In injury to the chest is it possible to have fever without infection?" was discussed by Drs. Hillman, Mitchell, Varier, Shanklin, Montgomery and Kilmer.

Dr. Wegner was appointed to write a paper on "Temperature." Secretary read a letter from Dr. W. T. Gott regarding Mr. Frank Irwin, magnetic healer. Motion carried to the effect that the letter from Dr. Gott and the United Doctors concern be referred to the Board of Censors for Action.

Adjourned. R. C. Shanklin, Secretary.

Meeting of April 24

Society met in regular session with sixteen members present. Dr. C. C. Terry read a paper on "Physical Signs in Diseases of the Heart." Discussion by Drs. Owen, Montgomery, Miller, Berteling, Kilmer, Mitchell, Wegner, Butterworth, Bosenbury, and closed by Dr. Terry.

Dr. Miller suggested that there be more case reports with presentation of pathologic specimens, and, further, that reports be filed and added to from time to time.

Drs. H. T. Montgomery, W. G. Wegner and W. H. Hillman were appointed to interview the mayor with a view to asking his aid in suppressing the use of fireworks and firearms on the Fourth of July.

Adjourned. R. C. Shanklin, Secretary.

VIGO COUNTY

Meeting of March 7

Professor L. J. Rettger, of the Indiana State Normal School gave an address on the subject "The Physiological Relations of Immunity."

Meeting of March 14

A clinic at the Union Hospital. Dr. A. W. Brayton, of Indianapolis, was present and addressed the society on the treatment of certain skin diseases, and also his experience with salvarsan.

Dr. J. H. Weinstein showed a case of syphilis in which secondary lesions had developed very rapidly although treatment by mercury had been intensive. The body was covered with foul and sloughing ulcers. Salvarsan was given in the gluteal muscles; and within a week the lesions had made a very rapid and remarkable improvement.

Dr. M. A. Boor showed a case in which salvarsan had been given for a very extensive macular eruption of the entire body due to syphilis; there was little apparent result and even after the second injection the rash failed to disappear, although the patient's appetite improved.

Another case was reported, of a man who had a palmar syphilid, and after a year of treatment it still persisted. He was given an intravenous injection of salvarsan, and within a few weeks the syphilid had almost entirely healed.

Meeting of March 21

The subject for discussion was "Medical Legislation," and Senators Beal and Royse had been invited to address the society.

Senator Fred Beal spoke of the very great importance of having the proposed bill thoroughly considered and carefully "framed" before the legislature begins its session; that its purpose should be made plain to the laity and a public sentiment in its favor fostered. He also said that a lobby properly carried on was of great value to the people and an aid to the legislator. Too many bills come up for any man to thoroughly inform himself in regard to all their details in advance. If the profession could maintain a committee at Indianapolis during the session who would make it a business to see the legislators during the session and explain to them the need of a law it would be a great help to the profession in securing any needed legislation. He also commented on the fact that practically all the proposed medical bills had been of a very unselfish and altruistic nature. He spoke of the great need of some responsible committee who could judge of the value of a bill after it had been altered and amended, as to whether it was still deserving of support.

Senator Royse spoke of the very great value of personal talks with the legislators, especially with a man who was very enthusiastic and thoroughly convinced of the righteousness of his cause. He spoke of the great influence of Dr. J. N. Hurty in securing medical legislation. He also said that much of the recent medical legislation was far in advance of the time, and beyond the knowledge of the average layman or legislator, making it all the more important that a committee of medical men be on the ground to thoroughly go over the ground with them. He called attention to the common mistake of medical societies of hastily recommending a bill without giving any attention and study to the matter, and said that such action could only result in the disregarding of their requests.

Dr. F. H. Jett spoke of the necessity of having a thoroughly organized profession with each society furnished with a copy of each bill, in order that intelligent action may be taken.

Meeting of March 28

A very interesting address was given by Dr. Carl Beck, of Chicago, on "The Diagnosis and Treatment of Bone Disease."

B. V. Caffee, Secretary.

BOOK REVIEWS

A Manual of Diseases of the Nose, Throat and Ear. By E. Baldwin Gleason, M.D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. Second revised edition. 12mo of 563 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Co., 1910. Flexible leather, $2.50 net.

This is a concise, practical and uptodate text-book of nearly six hundred pages, bound in soft leather, of convenient size, having good type and paper and is profusely illustrated. This second edition has been carefully revised and many chapters entirely rewritten to conform to modern knowledge concerning a branch of medicine that has made wonderful advancement during the past few years. The work is very comprehensive, considering size, and it has been written in that clear and forceful manner characteristic of the experienced teacher and clinician. It is so uniformly excellent throughout that it will appeal to those who desire a condensed though thoroughly practical treatise on diseases of the nose, throat and ear, and one of convenient size.

Progressive Medicine. A quarterly digest of advances, etc., in the medical and surgical sciences. Edited by H. A. Hare, M. D., Prof. of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia, assisted by L. F. Appleman, M.D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. March 1, 1911. Lea & Febiger, Philadelphia and New York. Paper. pp. 355. Price $6.00 per annum.

The usual interest accompanies the opening chapter of the March number, surgery of the head, neck and thorax by Frazier. While the whole field is well covered, particular attention is given to the subjects of tuberculous adenitis, exophthalmic goiter, the surgery of the hypophysis, the thymus, and chronic cystic disease of the mammæ.

While considerable space is allotted by Rurähl in the section on infectious diseases, to the tropical and protozoan diseases and to poliomyelitis, yet the usual important discussions on tuberculosis and typhoid fever find place in this number.

Crandall very properly, in the pediatric section, takes cognizance of the brilliant late accomplishments in the treatment of hemorrhage of the new-born. The subjects of artificial feeding and examination of stools in infancy are gone into with considerable pains.

Kyle on rhinology and laryngology and Duel on otology conclude what is an unusually full and important number of this standard review publication.

Hydrotherapy. A treatise on Hydrotherapy in general; Its application to special affections; the technic or processes employed; and use of waters internally. By Guy Hinsdale, A.M., M.D., Lecturer on Climatology, Medico-Chirurgical College of Philadelphia. W. B. Saunders Co., Philadelphia and London. 1910. Cloth $3.50 net.

It is interesting to follow the evolution of hydrotherapy, an art and a science whose beginnings stretch back for two thousand years. As the science exists today, supplemented by the use of modern apparatus, it is a powerful aid in therapeutics, rapidly growing in popularity as the knowledge of its technic becomes more widely diffused.

Hinsdale has undertaken the task of presenting in their most approved forms the various kinds of hydrotherapeutic measures and their methods of application,

particularly their application in the different forms of disease. It is essential that the practicing physician have access to a practical work on this subject, and perhaps no more comprehensive short treatise than this can be found. The directions are so specific in every detail as to leave no question as to just how to apply any form of hydrotherapy.

The author calls attention to the aid in treatment accruing from a favorable mental attitude on the part of the patient. Wherever it is necessary to elucidate the text, there are illustrations depicting details of form that are made plain by such means.

The Modern View of Syphilis and Its Treatment. By Gustav Baar, M.D., Vienna. Cloth. $2.00. New York and London: D. Appleton & Co. 1910.

In part one of this work, the author emphasizes the three important discoveries that have revolutionized the view-point of every student of syphilis. They are (1) the experimental inoculation of animals with syphilis by Metchnikoff and Rouxin, 1903; (2) the discovery of the germ of syphilis, spirocheta pallida, by Shaudinn and Hoffman and (3) the sero-diagnosis of syphilis by Wassermann, Neisser and Bruck. After a brief discussion of each, the method of collecting blood for a Wassermann test is given with detailed statistics as to the value of the test; then some cases of uncertain diagnosis are cited in which the test indicated the course of treatment to be pursued. In the second part we find the special pathology, symptomatology and differential diagnosis of syphilis of the various organs of the body given with illustrative cases under each division. A series of very interesting cases is presented under latent forms of the disease.

The section on therapy recommends and gives in detail the Fournier-Neisser intermittent treatment, not the symptomatic treatment as used to be practiced before the discovery of the Wassermann test. This book was on the press before the reports from the use of Ehrlich's preparation, styled salvarsan, were available. However, since the medical journals are continually publishing the results from the use of salvarsan and as it will be some time before a definite place in therapeutics can be accorded the preparation, the discretion of the author and publishers in issuing this useful volume is unquestioned.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., Adjunct Professor of Orthopedic Surgery in the College of Physicians and Surgeons, New York; Professor of Orthopedic Surgery in the New York Polyclinic. New (4th) edition, revised and enlarged. Octavo, 908 pages, with 601 illustrations, mostly original. Cloth $5.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

So extensive have been the changes in this new 4th edition of Dr. Whitman's excellent work that the entire book has been reset and many new illustrations find place along with the former illustrative profusion.

As a reference work for practitioners, Whitman's Orthopedic Surgery has already established itself as distinctly in the lead of all others, and the valuable statistics, brought thoroughly up to date in this edition, remain unrivaled in their comprehensive excellence.

Recognizing the fact that it is the family practitioner who first sees the orthopedic cases, the author has very wisely undertaken to emphasize the preventive as well as curative treatment of the conditions peculiar to this branch of surgery. Likewise has he endeavored to treat his subjects in the order of their importance and frequency. Hence it is that the work starts with the consideration of the subject of tuberculous disease of the spine, followed by the non-tuberculous affections and deformities of that part. Tuberculous and non-tuberculous diseases of the bones and joints are followed by a consideration of the same disease affecting the special joints. Then comes a general discussion on congenital and acquired deformities, to be followed by a similar treatment of various members according to their anatomic classification. Diseases of the nervous system in their relation to orthopedics precede the concluding chapters on disabilities and deformities of the foot, which latter chapters are among the most complete and interesting of the entire work.

As has been previously mentioned, the careful and exhaustive statistical analysis of Dr. Whitman's observations in both his own and other very full services, makes this book the probable peer of all works on the subject under discussion.

Medical Chaos and Crime. By Norman Barnsby, M.D. Cloth. Pp. 384. Price $2.00. Mitchell Kennerley. London and New York, 1910.

As stated by the author in the preface, this book is mainly an exposure of the abuses that exist in the medical profession in this country; abuses that not only degrade the practice of medicine, but contribute not a little to the physical and moral deterioration of the American people. It would be futile to attempt to estimate the amount of human suffering caused by ignorance, incompetence, commercialism and criminal indifference of those who call themselves disciples of Aesculapius, but the evil may at least be pointed out and denounced, and this the author has done in an account that is certainly sensational, albeit that in the main we must recognize its truth.

The author starts out with the assumption that generally speaking graft pervades the medical profession, as it does in every profession and in the trades. The ethics of the profession, real and criminal, are discussed, as also the subject of education at the cost of human life. The surgeon who performs unnecessary surgical operations is condemned in scathing language, as also the surgical novice who, without experience or skill, and without the guidance of one experienced and skilled, sacrifices lives in bungling efforts to imitate the work of the real surgeon. The abortionist comes in for condemnation, as also the amateur anesthetist. The division of fees as ordinarily practiced is considered a cowardly form of commercialism and even hospitals are arraigned for abuses which cry loudly for reform.

The intent of the author is to collect and present the facts to those whom they most concern—the victimized public. The appeal is made to the laity because the author believes that publicity is the only way by which the evil can be corrected. As a remedy he advocates the abolition of all codes and practices inimical to society, and a complete reorganization of the system on the lines of legislative supervision or other responsible control. In no other way can an erstwhile noble profession be purged of its corruption and the public adequately served and safeguarded.

New and Nonofficial Remedies, 1911. Press of the American Medical Association, Chicago, Ill.

This book contains the medicinal substances which prior to Jan. 1, 1911, have been examined by the Council on Pharmacy and Chemistry of the American Medical Association and accepted as complying with the rules adopted by the Council. It is proposed to issue the book annually.

The Blues: Causes and Cure. By Albert Abrams, A.M., M.D., F.R.M.S., Consulting Physician, Denver National Hospital for Consumption, etc. Illustrated. Fourth edition. Revised and enlarged. Cloth. pp. 295. Price $1.50. E. B. Treat & Company, New York, 1911.

The addition to this fourth edition consists in embracing a rather exhaustive note in the appendix, which deals with the author's method of augmenting the splanchnic tone by spinal concussion, etc., questions more fully elaborated on in his work on Spondylotherapy, recently reviewed in these columns.

Practical Dietetics with Reference to Diet in Disease. By Alida Francis Pattee, Graduate, Dept. of Household Arts, State Normal School, Framingham, Mass.; Late Instructor in Dietetics, Bellevue Training School, etc. Sixth Edition Revised and Enlarged. Cloth. pp. 475. Price $1.50. A. F. Pattee, Publisher. New York, 1910.

Not only a careful revision but the addition of one hundred and fifty pages, serve to stamp the new edition of this work as distinctly abreast of the times in the important branch of dietetics. Energy values attached to recipes and outlines of State Board requirements are distinctly new and valuable features of this recent edition of what has in the past enjoyed the reputation of being one of the very best texts on its subject.

Prevention of Infectious Diseases. By Alvah H. Doty, M.D., Health Officer of the Port of New York. Cloth, pp. 280, Price $2.50. D. Appleton and Company, New York and London.

This book deals chiefly with marine sanitation. The author emphasizes the much greater danger of the transmission of infectious diseases by carriers, mild or unrecognized cases, and the various discharges of the sick individual rather than by "fomites," though he recognizes that fomites contaminated by infectious secretions or excretions are capable of carrying infection and should be dealt with accordingly. The chapter on disinfectants gives some valuable suggestions on the use of disinfectants and deoderants.

The book is distinguished by the practical discussion of the subject and summarizes the more recent views of the prevention of infectious diseases.

Plastic and Cosmetic Surgery. By Frederick Strange Kolle, M.D. New York and London. D. Appleton & Company, 1911.

The work of collecting and selecting the best of the literature on plastic and cosmetic surgery into a single practical and concise treatise is much to be commended.

Although there are two or three chapters devoted to the operating room and its preparation with elaborate illustrations of instrument cabinets, chairs, tables, sterilizers, etc., that are entirely superfluous in a work of this kind, the main bulk of the volume is given over to the principles and practice of plastic surgery.

There is a large and very interesting section on hydrocarbon prothesis in which is given in detail untoward results that sometimes follow injection, and precautionary measures that will obviate them. The method of injection is given clearly and comprehensively with all other details to be observed. This is followed by specific technic for the correction of the different regional deformities.

The book is profusely illustrated, containing many diagrams indicating methods of flap formation and suturing.

The work is one that will be appreciated by those who are skilled in surgery. The publishers have produced a volume that reflects much to their credit as is their custom.

Case Histories in Pediatrics. By John Lovett Morse, A.M., M.D., Assistant Professor of Pediatrics, Harvard Medical School, etc., Boston. W. M. Leonard, 1911. Cloth $3.00.

Having found the method of case teaching most useful in the instruction not only of undergraduates but also of graduate students, the author has recognized the need for the utilization of this method for the presentation of the subject of pediatrics to the practitioner. The work is in reality a postgraduate clinical course in diseases of children.

One Hundred case histories are given, classified under the section headings of diseases of the new-born, of the gastro-enteric tracts, of nutrition, specific infections diseases, diseases of the nose, throat, ears and larynx, of the bronchi, lungs and pleuræ, of the heart and pericardium, of the liver, kidneys and bladder, of the blood, of the nervous system, and finally a group of unclassified diseases. Each case is considered under the captions, history, physical examination, diagnosis, prognosis and treatment, dealing with the actual conditions as the physician meets them.

The points in the differential diagnosis are clearly and accurately stated with such conclusions as may rightly come from one having such vast experience. The utility of such a compilation of cases is unquestionable.

Modern Treatment: The Management of Disease with Medicinal and Non-Medicinal Remedies. Vol. II. By eminent American and English Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; assisted by H. R. M. Landis, M.D., Medical Director to the Phipps Institute for Tuberculosis. In two volumes. Price per volume in cloth, $6.00; half morocco, $7.50, net. Lea & Febiger, Philadelphia and New York, 1911.

There is in the second volume of this work on modern treatment, a fund of therapeutic knowledge arranged in a most accessible manner. The grouping of allied diseases under separate divisions, with the most approved forms of treatment in each disease together with a brief and comprehensive description of its etiology and pathology is commendable. The divisions cover diseases due to parasitic infection, diseases of the circulatory system, of the digestive system and allied

organs, of the respiratory system, nutrition and diathetic diseases, diseases of the nervous system, of the genito-urinary apparatus, of the skin, non-surgical treatment of diseases of the eye, of the ear, and tympanic membrane.

As in the first volume, each subject is treated by a man particularly able to discuss the various phases of that part of medicine.

These two volumes cover the whole field of modern practical medicine, and are so arranged as to be most convenient as a desk reference in therapeutics.

The Practice of Surgery. By James G. Mumford, M.D., Instructor in Surgery in the Harvard Medical School. Octavo of 1015 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth $7.00 net; half morocco, $8.50 net.

In the light of present-day specialism, one cannot hope to cover in a single-volume text of surgery anything more than certain of the well-established facts of that branch, as clinically encountered in routine practice. The field is now so divided and the importance of the allied branches so patent that a general text-book must needs be grossly condensed. Such condensation of necessity limits the work to a field of handy reference on general subjects with no claim for exhaustiveness in any of its details.

So it is with Dr. Mumford's new volume on the "Practice of Surgery," and to make it even more practical the author has thrown aside the conventional sequence usually employed, preferring rather to discuss first those subjects of major import and commonest occurrence, to be followed by a briefer treatment of rarer conditions with less clinical interest. For this reason, the first part discussed is the abdomen; and naturally the most practical subject in surgery of the abdomen is appendicitis; hence it is that the work starts with the topic of appendicitis, followed by discussions on surgery of the small intestine, colon, rectum and anus, esophagus, stomach and duodenum. Then come the liver and bile-passages, pancreas and spleen, hernia, etc.

Part second takes up the important questions pertaining to gynecology, the female organs of generation, uterus, tubes and ovaries, perineum and vagina in the order named.

Part three devotes a hundred and twenty well condensed pages to genito-urinary surgery, and about half as much space is occupied in the fourth part on the chest. Parts five and six treat of the face, head and spine, and the work closes with a discussion of minor surgery, so-called, and diseases of structure.

From this outline it will readily be seen that conventionality has certainly yielded to practical importance in the sequence of the text. Aside from this admirable feature, a wide familiarity with the best current literature on the subject at hand is obvious throughout, and the profusion of good illustrations make the work a credit to its author.

One finds little to criticize in the subject matter, though objection might be filed against the practice of multiple trocar puncture of the distended guts in diffuse peritonitis of appendiceal origin when resort might be had to the safer procedure of enterotomy with immediate suture.

A couple of typographical errors were noted.

A Treatise on Diseases of the Nose, Throat and Ear. By William Lincoln Ballenger, M.D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (3rd) edition, thoroughly revised. Octavo, 983 pages, with 506 engravings, mostly original, and 22 plates. Cloth, $5.50, net. Lea & Febiger, Philadelphia and New York, 1911.

This is the most comprehensive of any of the treatises on diseases of the nose, throat and ear with which we are acquainted. Its popularity is attested by the fact that within a period of but little more than two years three editions have been required to meet the demand, and each of the two editions preceding this one has been exhausted months before the succeeding edition was ready for the market. The thoroughness with which each subject is handled, the care that the author has taken to include the most advanced knowledge of the civilized world, the systematic, clear and forceful manner of presentation, and the lavish use of illustrations leaves nothing to be desired by one who desires the latest and best on the subjects discussed. In the face of an almost unprecedented demand for the work the author has, with commendable enterprise, carefully revised each edition, and every page of this last volume has been subjected to close revision and nearly a hundred new illustrations added. Among some of the new features may be mentioned the discussion of the vaccine treatment of various nose, throat and ear affections, Vincent's angina, blood-cultures in sinus thrombosis, labyrinthine infections, and a complete description of many new operative procedures. Mechanically the book is satisfactory and the large number and excellence of the illustrations are notable features.

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ORIGINAL ARTICLES

RABIES *

HISTORY, ETIOLOGY, PATHOLOGY, DIAGNOSIS AND TREATMENT

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The purpose of this paper is to review the history of rabies and make an effort to arrive at the facts concerning the frequency of rabies. One often hears a physician remark that he believes rabies occurs very rarely or not at all. Our knowledge has been limited and indefinite because only a comparatively small number of the cases bitten by rabid dogs develop the disease and so we have no definite standard for judging the efficiency of treatment or prevalence of the disease. Also the great number of cases treated on suspicion give evidence in favor of a form of treatment that may be entirely without benefit. An English surgeon treated 4,000 cases, which he believed to have been bitten by rabid dogs, with lunar caustic without a single death and cites his statistics to prove that such treatment is specific.

Flint in 1886, soon after Pasteur originated our present method of treatment, doubted such treatment since some of the cases treated had not been bitten by rabid dogs and others were protected by having had their wounds cauterized. In view of such facts he considered it impossible to judge the value of the treatment.

Recent years have established the Pasteur treatment, but other knowledge is indefinite. Gamgee as recently as 1879 reported a case of rabies developing seven years after the bite. The history will be reviewed with the idea of adding some proofs to our recent knowledge.

Rabies was unknown to Hippocrates but was described by Aristotle B. C. 326, who recognized its transmissibility but denied its existence in man. He said: "Dogs are subject to rabies; it makes them furious: all animals they bite while in this state become rabid, except man." Plutarch claims that hydrophobia was first recognized by Asclepiadæ and Homer's allusion to a malign dog-star and to Hector's acting like a raging dog have been quoted as implying a knowledge of rabies. However, no certain reference to rabies was made before Aristotle. Galen left an account of rabies which is particularly exact.

The earliest description in man is found in the first century, the term hydrophobia being used.

Celsus gave a good description of rabies in man and advised suction and the actual cautery for infected bites. In 1591 transmission from man to wolves was recorded. Van Sweiten recognized and described the paralytic type in man which was more fully described by Berndt in 1822. The virulence of the saliva of dogs was first demonstrated by Gruner in 1813. Berndt confirmed these findings and held that the saliva of all animals infected with rabies contained the virus. For a time it was believed that herbivora were an exception but Rey in 1842 proved the correctness of Bernt's views. Pasteur, beginning in 1881, has given us our present knowledge.

Epidemics of rabies have occurred at various times in different countries. The first scientific report of cases was in 1271 when the wolves of Franconia became infected. These animals contrary to their usual habits left the herds and flocks and attacked the shepherds, following them into towns. Rabies among dogs prevailed in Spain in 1500. In 1604 it was common in Paris

* Read before the Indiana State Medical Association, at Fort Wayne, Sept. 29, 1910.

and although it was probably common in various parts of Europe thereafter it was not reported again until 1691 when it became epidemic in Italy. Outbreaks occurred in France and Germany from 1719 to 1721, in Hungary from 1722 to 1723 and in various other parts of Europe from 1725 to 1726. Atmospheric conditions were blamed for these later epidemics. The epidemics in Italy occurred in the summer months during a dry season but that fact is probably only a coincidence. Wolves and other animals were affected as well as dogs. Rabies was common in London in 1760, in Philadelphia in 1779, in the West Indian Islands in 1785 to 1789. At this period the disease among wolves terrified the people more than the rabid dogs.

It was not until the beginning of the nineteenth century that foxes were found to be frequently affected. From 1802 to 1804 these animals became rabid in large numbers in various parts of Europe. In 1806 rabies is said to have been so prevalent in London that a number of cases in humans occurred daily. Certain localities were ravaged from 1808 to 1809. Foxes continued to be affected and contrary to their usual shy habits, would follow men, cattle and dogs in daylight, bite them and so communicate the disease. The Würtemberg government in 1829 published a report of these outbreaks. From 1803 to 1820 rabies ravaged. In 1810 it spread through southern Russia and the same year appeared in America where both wild and domestic animals were affected. In 1815 there was an epidemic in Denmark. After 1820 for a few years the disease abated in England. From 1819 to 1829 Italy experienced an epidemic. Of thirteen persons bitten by a rabid wolf, nine died. From 1816 to 1826 Germany and Switzerland had an epidemic among foxes which was communicated to domestic animals. In 1824 rabies was common among foxes, wolves, cats and reindeer in Sweden, Norway and Russia. In 1827 many persons in Switzerland and the Rhine provinces were bitten by foxes but did not develop the disease in cases where the wounds were promptly cauterized. Dogs and cats bitten by the same animals became rabid.

In 1830 the subject attracted great attention in England. A committee of the House of Commons took evidence on the subject. Terror existed among all classes. Cases in humans were common but the majority of the cases were among foxhounds.

From 1825 to 1850 the disease abated in England. The law abolishing the use of dogs as beasts of burden is believed to have caused the change. The law led to a decrease in the number of dogs among the less intelligent classes and indirectly led to the destruction of roving dogs kept by the poorer classes. A dog tax also tended to limit the number of dogs. For a long time England remained comparatively free from the disease. Other European countries continued to have epidemics. In Vienna from 1838 to 1840 rabies among dogs was epidemic. Curiously, nearly all of the cases were of the furious type among males. Dogs older than one year and less than seven years were, with few exceptions, affected. The spring months furnished the majority of the cases. Another epidemic in Würtemberg occurred from 1839 to 1842, which was traced to foxes. During the same years France also experienced an epidemic. The Lyons veterinary school averaged twenty-six cases yearly dying at the school during a period of thirty-one years.

In 1887 there were 217 cases of rabies in Great Britain; in 1888, 160; and in 1899, 312. The increase caused alarm and muzzling was enforced, as a result of which in 1890, 160 cases were seen; in 1891, seventy-nine; and in 1892, thirty-eight. Muzzling was opposed and the ordinance was relaxed. In 1893 the number rose to ninety-three; in 1894 to 248 and 1895 to 672. General alarm resulted in enforcing the muzzling ordinance and the number of cases decreased until in 1900 there were no cases. There has been an increase in the last two years since the relaxation in enforcing muzzling.

In Berlin, rabies was common prior to 1875. Since that time a law requiring the killing of dogs suspected of rabies and the muzzling and leading of dogs when in public places has been enforced. This law has eradicated rabies, there having been no cases since 1883.

In Holland rabies was common. In 1875 a law requiring muzzling was passed and in 1879 there were but three cases. Since then only an occasional case has developed and those cases were along the borders or in imported dogs.

In Belgium rabies has been on the increase during the last three years. The cases have been scattered. The Public Health Department requires notification of bites by suspicious animals.

Rabies has been endemic in the United States for a number of years. The first epidemic occurred in Boston in 1769. In 1779 it appeared in Philadelphia and in 1785 was prevalent throughout the northern states, soon appearing in the southern states. Newspaper reports have appeared from time to time for over a century. Unfortunately the recording of cases by scientific men has been neglected. The prevalence of

rabies has varied. In Missouri and Ohio in 1860 so many cattle died from rabies that the owners sought government aid. In Pennsylvania in 1906 and 1907 a large number of dogs, cats, cattle and sheep died from the disease. In 1905 in Jacksonville, Fla., 1,200 dogs were killed on account of rabies after twelve persons had been bitten, three of whom died. The United States census of 1890 shows 143 deaths in humans from hydrophobia. The 1900 report shows 123 deaths. Statistics from seventy-three cities showed 230 deaths between 1890 and 1900. Dr. Frothingham is authority for the statement that in Massachusetts there has been during the last few years an average of 500 rabid dogs yearly. In 1907, 158 and in 1908, 140 persons were given the preventive treatment. Fourteen deaths occurred during those two years. During the past two years rabies has been common in various eastern states. The possibility of an epidemic throughout the country led the Legislative Council of the American Medical Association in 1907 to adopt resolutions to the effect that the United States Public Health and Marine-Hospital Service investigate the situation with a view to prevention or control.

The ideas of the early investigators as to the nature and cause of rabies are amusing and interesting when compared to our present knowledge. Apuleias, an African living in the first century, described rabies and believed that there was no incubation period, the disease appearing immediately after the bite. He also described the fear that rabid animals have of water.

Gamgee in 1878 writes of rabies and insists that the popular idea of "dog-days," thirst and sexual intercourse causing spontaneous rabies is absurd. He believed in contagion. Such was the indefinite knowledge from the first century up to the time of Pasteur.

Coleman in 1830 observed that rabies was more common in male dogs in the ratio of six to one. He also observed that rabid dogs did not bite the females, the sex instinct being preserved. Rabies was also found to be more common in the spring, the fact being attributed to the fighting between the males when the females were in heat.

LeBlanc at about the same period also observed the prevalence of rabies in males and attributed the fact to repression of sexual desire.

Rabies is more prevalent in temperate than in tropical regions. This is true of all infective conditions on account of the activities of animals of temperate zones. Heat or cold is not incompatible, there being history of epidemics in both climates. Many secluded islands have maintained an immunity or have only recently been invaded by infected dogs. A river may limit the spread of the disease as happened in the Hamburg epidemic in 1852-3, the river Elbe furnishing the barrier. Rabies has prevailed in all civilized countries at some period.

The older writers were inclined to believe rabies appeared spontaneously. Hunger, thirst and the eating of spoiled food were considered to be causes. We now know that these have no influence. Countries where the dogs are scavengers are free from rabies, and the hot season does not produce an excess of cases. Shepherds' dogs starve without manifesting any of the symptoms. Toffoli claims to have caused spontaneous rabies in dogs by shutting them up in a cage with a female in heat and allowing them to fight. No other observer has succeeded with the experiment. Popular belief considers that the bite of the skunk always causes rabies but proof is lacking.

Sime believes that the disease is always primary in the rabbits since the rabbit is the best intensifier of virus, basing the belief on the supposition that the primary form must be in an animal that intensifies the virus. Dogs have the disease secondarily from being infected when chasing rabbits.

Romberg's ideas were peculiar concerning rabies. He based the diagnosis of rabies, from other nervous conditions, on the excitation by drinking. He also believed that after the body of an animal dead of rabies became rigid, the infection could not be transmitted.

The diagnosis of rabies by the writers previous to Pasteur was based on peculiar circumstances. One author made a diagnosis in the dog by the absence of gross pathologic changes and the finding of "hair, straw, rubbish, etc., in the stomach at autopsy." The same author considered that any dog that bites without provocation should be suspected. Romberg believed that the inclination to bite in humans should be the diagnostic point between rabies and lyssophobia. One author thought that all cases were furious and that paralysis was the first stage of the furious type. Another author stated that "biting, barking and inarticulate cries were not more frequently made by rabies than by maniacal patients."

The treatment of rabies by the early physician was even more indefinite than his other knowledge. Celsus applied the cup to the bite or the actual cautery. Cauterization with chemicals, excision or amputation above the bite were more recent methods. Silver nitrate and nitric acid were most commonly used. Pliny used as a cure the livers of mad dogs. This treatment appears not to have been successful and Galen met with

greater success in the use of a compound of crayfish eyes. "Prolonged and sudden immersion" in cold water was an old remedy for warding off convulsions. In England during the seventeenth century, dipping in the sea was the usual method of treatment. The patient was placed on his knees close to the sea and held by strong men until a wave approached when he was pushed down, the waves passing over his body. After nine dips he was supposed to be cured.

At about this period patients who developed the disease were sometimes shot through the head when in the last stages.

In the eighteenth century faith was lost in the sea-treatment as a result of failures in cures. The sea cured only the non-genuine cases and a narrator writes, after observing deaths after the treatment: "This proves that there is no remedy for the imagination, and that cure is wrought less by the sea than by the belief that it will cure."

Many physicians have advocated some specific treatment which they used in a few cases without rabies redeveloping, forgetting that probably without treatment the results would have been the same. Numerous mixtures of specific drugs were used by different men until a sufficient number of deaths resulted to disprove their theory.

Dr. Wendt, in 1824, kept up suppuration in the wounds with powdered cantharides and at the same time caused copious salivation with calomel and mercury ointment.

Romberg writing in 1853 advised the drawing of 12 ounces of blood from the arm, applying cantharides ointment to the cicatrix, mercurial ointment to the skin and calomel grains two every hour. After the disease developed he advises as follows: "console the patient, and avoid mentioning the name of the disease."

Marochetti believed that by breaking the vesicles that form beneath the tongue during the period of incubation, the disease could be averted.

Pasteur's first work consisted in passing virus through one of the attenuating group of animals, the monkey being used, until an attenuated virus was obtained. This virus was used to inoculate the bitten individuals, with the idea of causing a mild rabies that would produce some degree of immunity before the active virus caused the usual severe form of the disease. The idea was not successful.

Flint, writing a few years after this idea was exploded, claimed curare to be the only remedy that was worth consideration. He further stated that doubtful diagnosis rendered valueless all reports of results. He believed that the only preventive treatment was excision or cauterization.

All writers have agreed on death being inevitable when rabies has developed. The question of euthanasia was often discussed. Chloroform was early advocated as being the best method of making the patient comfortable.

The profession has accepted the later ideas of Pasteur and the public has forgotten most of the cures formerly used. The mad-stone alone has remained to remind the physician that for hundreds of years his work was all a mistake.

When Pasteur discovered that animals could be rendered immune by the repeated inoculation with rabic virus be added very much knowledge to the diagnosis of this disease. He and his immediate followers rely entirely on animal inoculation for their diagnosis. Following this great discovery, many other investigators attempted to arrive at a much quicker diagnosis than rabbit inoculation would permit. It was found that guinea-pigs would succumb in about one-half the time the rabbits would.

The true cause of rabies is still in doubt. However the germ of rabies has had the fortune to be discovered about as often as the cancer cell.

Menno isolated a yeast-like organism. Babes discovered a microorganism and a tubercle, the latter bearing his name which he believed to be causative and diagnostic. In 1903 Somani announced a polymorphous microorganism so small that it could be studied only under a magnification of 2,000 or 3,000 diameters.

The round and oval-celled accumulations in the cerebro-spinal and sympathetic ganglia of Van Gehuchten and Nelis were said to be specific for rabies. All of these organisms and bodies that were described have been found not to be diagnostic for they may be present in other conditions. In the year 1903 Negri, an Italian investigator working in Golgi's laboratory, discovered certain intra- and extracellular bodies or corpuscles occurring in the regions of the cornu Ammonis and Purkinje's cells of the cerebellum. While like previous announcements at first little importance, which is still in doubt by a few, was attached to them.

However, soon other authorities working independent of Negri found similar bodies and they began to confirm Negri's findings. Notably among those who confirmed were such men as Volpino, Berterelli, Damato, Daddi, Deveste, Guarnieri and Martitnotti. Shortly afterwards they were followed by Blasi, Pace and Bose. In 1904 Luzzani reported 179 cases and all but nine showed the Negri bodies. Volpino, Marzocchi, Dominici and Poor confirmed Negri findings.

The latter has searched the nervous system of animals dying from tetanus, strychnin, pneu-

mococcus, staphylococcus, alcohol, formalin, tuberculosis, diphtheria toxins, and of human beings who died from alcohol poisoning, tuberculosis and various nervous affections, many normal animals were examined and all of these were negative in regard to Negri bodies. Heat, cold, drying, immersion in glycerin and chemical agents had practically no effect in altering the bodies. They will stand putrefactive changes for several days.

Up to 1905 most investigators agreed with Negri in considering them Protozoa and the cause of rabies. Remlinger and Schuder were unable to confirm Negri's finding. They found that the virus when filtered was still toxic and they believed that the Negri bodies were too large to pass through the filter, and hence were not the cause of rabies. McNeal has shown that with trypanosomes besides the large ones that there were tiny ones that would pass a Berkefeld. Devestea and Valpino have proved that this is likewise true of the Negri bodies.

In 1905 Abba, Bormans, Way, Zaccaria, Maresch, Schiffman, Galli, Valerio and Bohne corroborate the work.

In the same year Luzzani reported 457 cases, 297 of which proved by the biologic test to be hydrophobia or rabies. Of these cases proved by the biologic test to be hydrophobia, nine failed to show Negri bodies.

Stimson, Poor, Wheeler, Williams and Lowden in this country regard them as diagnostic and when they are found regard the cases to be rabic. Simonds of the Indiana State Laboratory gives the combined statistics of six European laboratories. Out of 550 examinations for Negri bodies they were found in 334 cases. All of the 334 cases were proved to be rabies by the biologic test. In the remaining 206 cases no Negri bodies were found and out of this number eleven animals were shown, by the biologic test, to be suffering from rabies.

Kierley does not regard the Negri bodies to be diagnostic for rabies. Y. Manouelian thinks the Negri bodies are the macrophages that are desribed by Metchnikoff and that they are attracted to the nerve cell (cerebral-spinal ganglia) which are undergoing destruction from rabic virus. In other words, he contends that phagocytosis is taking place and that the macrophages are the bodies.

These bodies are described as being round or oval from 1 to 23 m. long, and containing vacuoles in some of which are granules of varying size and number, generally there is a central larger structure surrounded by smaller ones.

There are many methods by which the bodies may be stained. Williams and Lowden have devised a method by which the bodies can be stained in half an hour after receiving the material.

A summary report was made by the Research Laboratory of New York in 1906 and they found in nearly 100 per cent. of definite cases of street rabies that characteristic bodies are found in the large nerve cells of sections from a part of the central nervous system and connected ganglia.

Those who attached importance to the Negri bodies do not claim that they are found in all cases of rabies. There are certain cases of rabies in which they are not found. Animals that are killed with fixed virus usually do not show them. Often there are small bodies present in the nerve cells but it is too difficult to differentiate them. Also it is claimed by them that whenever these bodies are present it means rabies. It is true that they are found in all nervous tissues proved to be virulent, especially before beginning of symptoms. Forms small enough to pass a Berkefeld filter have not been seen. The structure of the bodies has not been shown to be analogous to that of known living organisms; no definite series of forms indicating growth and multiplication have been demonstrated; the staining qualities, contrary to those of known protozoa, are acidophilic qualities and not basophilic.

The virus or infective material, whatever its nature is, resides in the saliva of the infected animals but in greater concentration in the central nervous system (brain and spinal cord). It is thought not to be present in the blood but it is found in the secretions of certain glands, like the salivary, lachrymal, mammary (which is questioned) and pancreatic. The toxine resembles very much tetanus toxine.

In man rabies is practically always transmitted by the bite of a rabid animal, however, it may be transmitted by accident. The dog is the usual animal. Gross pathologic changes are practically nil on autopsy. The animal usually becomes greatly emaciated. The stomach is often filled with sticks, straws, stones, hair and other foreign material on account of the disordered appetite. Food may be entirely absent from the stomach. The larynx, trachea, salivary glands and mucous membranes of the stomach are frequently hyperemic and small hemorrhages are present. The membranes of the brain are inflamed and edematous. Sections of the cord will show round celled infiltration.

Only a certain proportion of those bitten by rabid animals are affected with rabies. It is variously estimated that from 10 to 30 per cent. by

different observers. The greater numbers estimate that 10 to 15 per cent. will be affected. Osler gives from 10 to 15 per cent.; Wood gives 33 per cent.; Edwards gives 33 per cent. for dogs, 60 to 90 per cent. for wolves, 60 per cent. for cats; Bradford gives 16 to 25 per cent.

The incubation period lasts from six weeks to three or four months. In the young this period may be much shorter (one and one-half weeks) and in the adult it may be two years, but this is exceedingly rare.

The prodromal symptoms are melancholia, headache, loss of appetite, sleeplessness, depression of spirits and sometimes radiating pains from the seat of bite. The lymph glands adjoining the bite may become swollen. Difficult swallowing is frequently experienced. There is some elevation of temperature and increase of the pulse rate.

Following the invasion there are two stages: (1) stage of excitement; (2) stage paralytic.

In the early part of the excitement stage it is more psychical which is soon superseded by the motor phenomena. Cutaneous and deep reflexes are increased. Hyperesthesia is so marked that the least sound or light, breath of air, food or water in the throat will produce intense spasms. The sight of water will produce intense spasm and from this alone it derives the common name hydrophobia.

Respiration is labored, with jerky, irregular and sighing inspiration. The shoulders are elevated and the epigastrium is protruded. Violent mania may be manifested. The mind is usually clear between the spasms. The patients rarely attempt to injure attendants. Frothing at the mouth is present and is due to the inability to swallow the increased flow of saliva. Temperature ranges from 100 to 104 or it may be subnormal; salivation and lachrymation, thirst extreme in character, tremors, erections and ejaculations, increased pulse, scanty albuminous urine often with casts and sometimes sugar and acetone are present. This stage lasts from two to three days.

Paralytic Stage.—This stage is less common in human than in animal rabies, and may supervene from the beginning in animals. The spasms and excitement cease, the pulse becomes irregular, sweating is profuse, swallowing is impossible and paralysis develops. The patient becomes unconscious, the heart collapses but death is rare from asphyxia or convulsions. This stage lasts not longer than eighteen hours.

Differential Diagnosis.—Rabies has to be differentiated from lyssophobia, acute mania, tetanus, hysteria, and strychnin poisoning. Lyssophobia, sometimes called pseudo-rabies, is a nervous manifestation in highly nervous individuals from the fright of a supposed hydrophobic animal. The symptoms of lyssophobia usually occur before the shortest period of the true malady. These patients can be controlled with ordinary treatment. Death from lyssophobia is exceedingly rare.

Acute mania is hard to differentiate in the beginning. Using Gowers quotation we may say that no patient ever passed from mental health to a state of imminent danger in two or three days. In tetanus the incubation period is shorter than rabies. There is present trismus, risus sardonicus and opisthotonos. In hysteria there is history of previous attacks. There is no respiratory spasm in hysteria. In strychnin poisoning the pupils are dilated, the limbs jerk, respirations spasmodic, shuddering and an anxious face wearing an unmeaning smile and the spasms are tonic.

The mortality depends largely on the animal making the bite, the size, number, character and location of the wounds. Cauterization will protect provided it is done thoroughly and early. Proust reports 117 cases without cauterization with ninety-six deaths; and 249 with cauterization with eighty-nine deaths. Krauss and Kriessel maintain that the serum of man does not possess any protective properties against rabies nor is it found shortly after the administration of the vaccine. After twenty or more days, there are marked anti-rabic properties present and for a considerable time following the treatment. Owing to this late development of protective substances in the body it is advisable to begin treatment as soon as possible after the injury.

Under the Pasteur preventive treatment the mortality has fallen to less than 1 per cent.

Prognosis.—After the disease has once developed recovery is exceedingly rare. It is true that rabbits will occasionally recover from inoculation from fixed virus.

Pasteur found that it was possible by repeated inoculation of rabic virus into the rabbit serially for about 100 times to increase the virulency of the virus in this animal so that it would die in eight or nine days. For this virus he gave the name "fixed virus" to distinguish it from street virus, which has an indefinite virulency.

He found also that by repeated inoculation of rabic virus into the ape that the virulency could be attenuated or in other words render the animal immune to rabies even when the strongest fixed virus was given. Evidently he considered man to belong to the ape family for he gave the treatment to him.

Treatment.—The method which we follow is the Pasteurian with the Calmette modification.

Rabbits are inoculated daily with fixed virus and allowed to die, which occurs with a marked regularity at the end of eight or nine days. The cords are removed under aseptic conditions and are placed in glass sterile jars which have two openings, one at the top and the other near the bottom. Cotton plugs are used for stoppers. These jars contain caustic soda or potash. The jars containing the cords are placed in a dark room with a constant temperature.

Light and heat rapidly attenuate the virus. It is claimed that a temperature of 100 degrees F. completely attenuates the virus within two hours. The cords are allowed to dry for ten days. Pasteur dried his cords for fifteen days. This is done in order to obtain cords of various degrees of attenuation so that virus of increased potency can be given for immunization purposes. At the end of ten days with serial strengths cords of two days attenuation can be given.

The cords can be kept in neutral glycerin for several days without losing their potency for administration. The cords are prepared for administration as follows: take a small portion of the cord about 1 cm. long, depending somewhat on size in diameter, and emulsify with sterile salt solution using about 5 c.c. so that it can be given with a medium-size serum syringe. The dose is usually 3 c.c., depending somewhat on age of patient and physical condition and the time after exposure to infection. It takes about fifteen to eighteen days to immunize the patient in simple cases. Late and severe cases when the wounds are on exposed parts, such as the face and hands, the treatment should be intensified.

Pasteur treated his first case on July the Fourth in 1885. His patient was a boy 9 years old and severely bitten. Each day a rabbit was inoculated for control. The first one or two rabbits did not die but all the rest died from true rabies.

It is admitted by some authorities that it is possible in rare instances of high susceptibility to convey rabies instead of preventing it. Again it is claimed by equally as good authority that rabies cannot be conveyed by fixed virus. If this is true it is practically harmless. Transitory neuritis is not uncommon but it is usually followed by recovery. Tea, coffee, tobacco, alcohol and cold baths are prohibited during treatment. Under Pasteur preventive treatment the mortality has fallen to less than 1 per cent., while before this the mortality was variously estimated from 10 to 90 per cent.

Other preventives are cauterization of the wounds with silver nitrate, carbolic acid, fuming nitric acid and actual cautery. These will protect a large per cent. if they are used early. *Muzzling of all dogs will prevent 90 per cent. of human rabies.*

When the real disease has become manifested the treatment can only be palliative, for recoveries are unknown if it is rabies.

Osler recommends cocainizing the fauces to facilitate the taking of liquids; rectal enemata should be given if dysphagia is present. Patients should be confined to a dark room. Restraint is rarely necessary. Morphin injections and chloroform and curare have importance in rabies.

Hogyes, in order to overcome some of the difficulties that are presented in the Pasteur method such as variability in size and form, devised the so-called dilution method. Large areas and large cords did not become attenuated as much as the smaller portions. He takes 1 gm. of the bulb of the rabbit's brain that has died from the fixed virus and emulsifies it as finely as possible under aseptic conditions. He dilutes for a beginning dose 1-10,000 which does not kill rabbits.

1/10000	is equivalent to	14 to 9 day cord.
1/5000	is equivalent to	7 to 9 day cord.
1/1000	is equivalent to	6 to 7 day cord.
1/500	is equivalent to	5 to 6 day cord.
1/200	is equivalent to	4 to 5 day cord.
1/100	is equivalent to	2 to 4 day cord.

Serums.—Antirabie serum has been produced but it cannot be made to give the required protection to rabie animals.

Semple found that he could immunize healthy ponies so that one volume of serum would prevent rabies in rabbits when they were inoculated with three volumes of fixed virus. When the proportion of virus is increased to seven volumes of serum he only prolonged the incubation period to seven days. Wheeler of New York has immunized sheep so that one volume of sheep serum is protective up to 8,000 parts of virus. The serum is recommended as a first dressing in conjunction with the Pasteur treatment. Semple in his series of cases which he treated with antirabie serum failed to secure protection in three cases.

Results of the Pasteur Preventive Treatment.—Among almost 26,000 cases treated in Paris from 1886 to 1901 less than 1 per cent. died from hydrophobia. Out of 1,539 cases treated in New York from 1901 about 0.66 per cent. died from rabies. Ferre records for 1901 at Bordeaux 100 cases without a single death. Troland in Algiers treated 1,836 cases with a mortality of 0.49 per cent. Odessa Institute shows, of 4,602 cases treated within the first week, twenty-

six deaths giving a mortality of 0.56 per cent; 961 treated during the second week gave 1.66 per cent.; 313 treated in the third week gave a mortality of 3.19 per cent. The Chicago Pasteur Institute reports that of 3,010 patients treated there was a death rate of 0.23 per cent.

224 North Meridian Street.

DISCUSSION

Dr. J. P. Simonds (Indianapolis): Rabies or hydrophobia is, in many ways, one of the most peculiar diseases known. It is classed among the infectious diseases, but there is probably no other infection in which the incubation period is so variable, in which so few persons (probably not more than 10 per cent.) inoculated with the virus actually develop the disease, and which is so uniformly fatal when once the symptoms have appeared.

Of recent work on this perplexing disease, that of Paltauf is the most enlightening. He had the rare opportunity to perform autopsies on seven persons who had been bitten by rabid dogs but died of some other cause. Four of these had not taken Pasteur treatment. Although they had shown no symptom of hydrophobia up to the time of their sudden deaths, their brains were proved to contain the rabic virus by producing the disease in rabbits inoculated with them. The other three had taken Pasteur treatment, and their brains were not virulent for rabbits. Paltauf's conclusions were that in infected persons the virus usually reached the brain and cord only to be destroyed there, in nine cases out of ten, by the natural protective mechanism of the body. The institution of Pasteur treatment merely rendered this natural defensive mechanism more effective.

It is now less than ten years since Negri discovered certain granular "bodies" in the brain cells of infected animals, and thus made possible a quick and accurate diagnosis of this disease. There has been much dispute as to the real nature of these "Negri bodies," and at least four theories have been advanced to explain them. Negri and others believe that they are protozoa, belonging to the Microsporidia, and that they are the immediate cause of the disease. They base this conclusion on the internal structure and staining properties of the bodies.

Babes believes the Negri bodies represent an encysted form of the parasite. Others consider the bodies to be the products of degeneration in the brain cell itself. Finally, there are those who believe that these bodies are phagocytes engaged in destroying degenerated brain cells. This idea originated in some work of Metchnikoff's. These neuro-phagocytes as pictures in an article by Manouelian, one of Metchnikoff's pupils, have only a very remote resemblance to Negri bodies. Furthermore, there are probably no phagocytes in the body that show such remarkable variations in size—1 to 27 micromillimeters—as Negri bodies.

The specificity of these bodies for rabies is now very generally accepted. Pool collected the statistics from six European laboratories in which the microscopic examination of 550 dogs' brains had been controlled by animal inoculation. In 334, Negri bodies were found and all the guinea-pigs inoculated with these brains developed rabies. In the remaining 206 cases, no Negri bodies were found, but eleven guinea-pigs injected with these brains developed the disease. Hence this general principle has come to be accepted as expressing the truth: that the finding of Negri bodies in a brain may be accepted as positive proof that the animal had rabies, but failure to find them does not prove absolutely that the animal was free from the disease.

During the last four years an extensive epidemic of rabies has existed in Indiana. At the State Laboratory during this time the brains of 376 animals have been examined, and of these 213, or 56.6 per cent., showed positive evidence of rabies. This by no means represents the actual number of cases of the disease, for many animals known to have been infected die of the disease and their heads are not sent to the laboratory at all.

Our method of diagnosis is as follows: Stained smears from Ammon's horn and the cerebellar cortex are examined for Negri bodies. If these are found the case is pronounced positive at once. If Negri bodies are not found and the dog has bitten some human, a guinea-pig is injected subdurally with an emulsion of the brain. It has been only a very, very rare occurrence that the guinea-pig test has proved positive when no Negri bodies were found with the microscope.

It is impossible to accurately measure the amount of damage done in this state by rabid animals. Our records show that 165 persons have been bitten, but this probably does not represent half the actual number. The loss of live stock has been very great. A dairyman at Richmond lost fourteen fine milk cows as the result of the ravages of one dog. Similar stories of large individual loss have come from other parts of the state. Early this year there were indications that the epidemic was abating. But since May a large number of cases have developed in territory hitherto free from the disease. In the north central part of the state there is a newly infected district including Howard, Carroll, Tippecanoe and Benton counties, the chief foci being about Kokomo and Lafayette. In the south central portion is another strip of recently infected territory extending from Wayne county southwest through Fayette, Rush, Shelby and Decatur counties. At present the outlook for subsidence of the infection is not very promising.

Dr. Helen Knabe (Indianapolis): We have heard an excellent paper and also a good discussion.

Now, I believe no one here doubts the presence of rabies in Indiana. Those who have followed the work of the State Laboratory through the last five years, especially since 1906, will know that everything has been tried to eradicate it. In 1908, especially, the epidemic was widespread. Few portions of the state that did not have some damage on account of rabies.

Those who have, as I have, stood at the death-bed of a person dying from hydrophobia, will never forget it, and I can tell you there is nothing to equal seeing a man go down in convulsions when you know he could have been saved. Therefore, my remarks shall be confined entirely to the prevention of this disease. I will try to tell you what we must do, and anyone who has ever done this work will appreciate the difficulties. Usually the most trouble is with the people who believe that everybody else's dog is liable to harbor the infection, but their own is perfectly safe. Occasionally a community will go a little farther and pass a muzzling order. That is very commendable, because we know that muzzling is the only way to stop the spread of this infection. But what about enforcing this law? My experience has been that it is very imperfectly done. It is not persisted in long enough to do any good.

But even if this were done, these sporadic efforts are of no value. Any measure to be effective must be state-wide. There must be no place where the dogs are not muzzled. Half our measures are worse than none at all, and only tend to bring into discredit the only method which brings any results if long enough continued. If we would only muzzle every dog that is worth the cost of a muzzle, and destroy all the rest, we could soon get rid of the infection; but at the end of a year or two were we to relax our vigor, the infection would soon be carried all through the state again.

PATHOLOGY, SYMPTOMS AND TREATMENT OF BURNS*

WITH CASE REPORT

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The pathology of burns, in a general sense, involves all the different degrees of hyperemia, from the mere erythema caused by the sudden dilatation of the cutaneous blood-vessels to the deep eschar of both layers of the skin including the subcutaneous tissues.

The simplest classification of these injuries is that in which they are separated into three divisions:

First degree: erythema, hyperemia, superficial skin irritation.

Second degree: formation of vesicles, cutaneous inflammation.

Third degree: eschars, devitalization of the skin and deeper structures.

The first degree is characterized by superficial redness. The line of demarcation into normal tissue is very gradual. In this type, produced by the sudden or transient application of heat over a large area, there is no loss or disappearance of the epidermis. The mild hyperemia which ensues causes a dilatation of the superficial blood-vessels. It does not partake of all the essentials of a typical inflammation in that it does not include loss of function.

In the second degree blebs or blisters form. A portion of the epidermis is elevated. There is an exudation of serum into the tissues, particularly into the dermis. This serum has the same composition as serum produced any place in the body, whether due to trauma from mechanical means or caustics. This process of active inflammation involves loss of epidermis, but the most active changes occur in the dermis.

In the third degree, both the epidermis and dermis are included. It is extremely important to differentiate very carefully between burns of the second and third degrees, because of the probability of resulting deformity. There is a desquamation of the epidermis with loss of function of both layers of skin.

Some writers have added a fourth degree burn, one in which the dermis and epidermis are included together with all the subcutaneous tissue. This includes, of course, burns of the most severe type. The third degree burns include all of the latter mentioned.

The process of repair in second degree burns is a simple one. New blood-vessels are formed and new epidermis just as in a loss of epidermis from trauma. Usually it is to be regarded as a simple inflammation.

In burns of the third degree, the process of repair is very different. Large masses of tissue have been destroyed—blood-vessels, nerves, and often subcutaneous tissues.

Infection almost invariably occurs in the deeper burns. This infection is usually of the ordinary pus type or staphylococcus. The tissues yield very slowly to repair due to the large area of necrosis.

Symptoms.—The first, the most important and the most prominent symptom is pain. Burns

* Read by title at the Ft. Wayne meeting of the Indiana State Medical Society, Sept. 30, 1910.

of the first and second degrees are usually more painful than those of the third degree. The terminal nerves of the skin suffer severe trauma in the superficial burns. In the deeper burns, they are destroyed in the mass of necrotic tissue. There is no injury which approaches the pain produced by a severe burn.

The most pronounced of the other symptoms are constitutional.

Shock.—Shock is produced by a paralysis of the vasomotor centers in the medulla. The degree of shock depends on the stimulation given the sensory nerves. The degrees may range from a mere faintness from anemia of the brain lasting only a few minutes, to a profound and continued suspension of the vital functions as in collapse. The anemia of the brain, the overdistention of the abdominal veins, the dilatation of the right side of the heart, the lessened arterial supply, all lead to a marked circulatory disturbance. The characteristic symptoms are: pallor of the skin and mucous membranes; eyes dull, pupils dilated; head bathed in a cold perspiration; complete muscular relaxation; feeble, irregular and sighing respirations; diminished sensibility; subnormal temperature, and occasionally nausea and vomiting.

If the burn has not been severe enough to cause shock, delirium may soon supervene, but usually is delayed a few days. Thirst and dysphagia are very pronounced, if the flame and heat have been inhaled to much extent. A low grade of fever ensues in a few days, not often high. Bowels are obstinately constipated at first.

Diarrhea.—This condition is usually a late manifestation and is most often associated with nausea and vomiting. Persistent vomiting combined with diarrhea and blood in the stools is strongly symptomatic of ulcer of the duodenum.

If the anterior portion of the chest be extensively involved, the symptoms are often obscure, limited, perhaps to a slight cough and dyspnea, even when the lungs are in an advanced stage of hepatization.

Urine.—An examination of the urine in a severe burn, after a few days' duration, usually shows considerable albumin. The amount varies according to the severity of the burn and increases with the subsequent rise of temperature.

Hemorrhage from sloughs of the deeper structures may occur, but is very rare. In the later stages, particularly of the more severe types, at a time when the sloughs are separating, suppuration almost invariably occurs.

The general late symptoms are asthenic.

The weakness is due to a disturbed nutrition which in turn is caused by a disturbed function of the organs of elimination—the bowels, kidneys and skin.

Tetanus and erysipelas are occasionally present, but not more often than in other accidents.

The most common cause of death in children is convulsions.

In a series of sixty-eight fatal cases reported, the causes of death were as follows: (Holmes System of Surgery).

General Causes, 34

Shock	9
Exhaustion	17
Erysipelas	3
Pyemia	3
Tetanus	2

From the Effects of Local Lesions, 34

Cerebral complications	11
Laryngitis	6
Thoracic complications	12
Abdominal lesions	4
Hemorrhage from the carotid artery	1

The prognosis depends on the age of the patient, the location and extent of the injury. Children are particularly liable to secondary visceral complications. The risk of cerebral or thoracic affections in children, even in comparatively slight burns, is out of all proportion greater than in grown people.

In burns of severe degree and those involving a large surface and those in which suppuration occurs, the chance of recovery is very small. One of the primary considerations in the prognosis is the situation of the injury and the length of time which has elapsed since the injury. Burns of the chest are of all others, the most fatal; those of the abdomen are often followed by peritonitis and those of the neck by laryngeal inflammation.

It is important to remember that sudden and obscure deaths are not very uncommon in burns, and have been noted by many authors.

The lapse of time after a severe burn is a very essential factor, since most deaths occur in from one to three days after the infliction of the injury. The prognosis must always be guarded in severe burns, since so many complications may result, both during the process of repair and cicatrization.

Treatment.—Treatment is divided into local and constitutional. The most important symptom to consider is pain. The intensity of the pain makes it absolutely necessary to obtain relief. This is best done by hypodermic injection of morphia before any other measure is

taken. After a few days the pain subsides somewhat and local measures serve to control the pain.

The local treatment is best observed by attention to the general rules of surgery.

For the collapse and shock which occur in the severe cases, diffusible stimulants are indicated; aromatic ammonia or alcohol answers very well. As regards local treatment and the remedies employed, there is a great diversity of opinion. Perhaps more agents have been recommended for the local treatment of burns than in any other branch of surgery. Only a few of the more common medicinal agents will be considered here, as this phase of the treatment will be more fully covered in the cases reported.

The different degrees of success obtained by use of the same class of remedies depend not only on the efficiency of the treatment employed, but on the consequent probability of sloughing and suppuration.

There has been considerable objection raised to the old remedy so commonly used—carron oil (a mixture of equal parts of linseed oil and lime water). One objection is the disagreeable odor, another is that it is non-antiseptic. Notwithstanding these objections, it has been very extensively used in the past and is yet used very successfully in the treatment of large burns. Strips of sterile gauze are saturated in the solution and applied to the burned surface. The whole is covered with waxed paper or oiled silk to prevent rapid evaporation; over this, cotton is applied and held in place by loose roller bandages. This dressing keeps the parts moist for a considerable period of time, is soothing to the patient and may be removed very easily when a new dressing is necessary. This dressing is renewed once in twenty-four hours.

Another remedy used is:

Phenol	40 grams
Glycerin	200 c.c.
Water	800 c.c.

This takes the intense heat out of a burn very quickly. If the application is continued any length of time, it should be diluted one-third. The phenol and glycerin can be made up and diluted when desired for use.

Carbolic acid and linseed oil in combination of eight parts of the oil to one of the acid is a very serviceable remedy. It is one of the best to allay pain and obviate the fetor.

One of the newer remedies employed in the past few years is picric acid. It is not advisable to use it continuously a long period of time in deep and extensive burns, because of a possible toxic absorption. In the *California State Journal of Medicine* for April, 1909, Teass gives his views on this subject. He has been connected with railroad work and smelting works for the past ten years and has had a large experience with burns of all degrees. He advises a 4 per cent. aqua-alcoholic solution of picric acid. He states that he has never seen a case of infection follow its first application to burns. Neither has he seen a case of poisoning follow its free and prolonged use. He further says that with the picric acid dressing we need never fear an erysipelatous infection. The objectionable feature to its use is the yellow stain to the parts. At the margin of the burn and the normal areas of skin, the yellow color can be removed with ammonia water. I have used the picric acid solution in several cases of small burns. In all the cases noted, the results were excellent. However, I do not feel warranted in giving all the praise to the picric acid, as I do not think the number of cases large enough, nor the extent of the injury a fair test to form an opinion. Many writers do report excellent results with its use.

Tincture of iodin has been employed very successfully. Its value in general surgery is now generally recognized. Descomps reports many cases treated with tincture of iodin. He begins by painting the skin around the burned area with the tincture. He then paints the burned surface with the same, touching a small area at a time. A dry antiseptic dressing is then applied to complete it. At subsequent dressings the surrounding skin is painted with the iodin, but the surface of the burn should not be touched unless there is a tendency to the formation of pus under the crusts. The advantages claimed for this method are, that it is simple and rapid, requires no preparation, no trained assistance, cicatrization is rapid and leaves less deformity than many other methods.

In the larger burns and those which involve considerable surface, great care must be exercised throughout the treatment to prevent deformity. This is particularly true of some parts of the body as the neck, axilla, groin and near joints. Whenever there is a probability that both layers of the skin have been involved, cicatrization should be watched with the greatest care, especially if located where the skin is loose or where important organs are located. Some of the most frightful deformities result from severe burns during the process of healing. The physician is taxed to the utmost to devise means of preventing deformity. In addition to medicinal methods, very often mechanical apparatus must be employed to correct over-contraction of the muscles.

Many disappointing and hopeless cases will be met in which the use of mechanical means cannot be tolerated on account of the pain induced. In this class of cases contraction must occur, as the best result that can be attained is to keep a clean wound even at the expense of great deformity.

Report of case:

These two patients were seen with Dr. A. C. McDonald and Dr. T. J. Shackelford.

Mr. J. R. and wife, aged 35 and 30 years respectively. The man was a big, strong fellow in excellent physical condition.

Personal History.—Electrician for several years; use of alcohol quite moderate; no evidence of disease at time of injury.

His wife was of small stature; not very robust with a past history of nervousness. No other history of the two patients was obtained.

On Aug. 24, 1909, about 8 p. m., they entered their apartments upstairs. Plumbers had been at work on the gas pipes during the day. The plug in the main feed pipe had blown out and gas had been escaping possibly two hours. The weather was very warm and the two patients were lightly clad.

The husband followed the old-time custom of finding the leak by striking a match. A tremendous explosion took place instantly. I happened to be about a block distant when the accident occurred. On arrival the patients were already down stairs and writhing in agony. Long strips and shreds of flesh hung from their hands and arms. Their faces were burned almost beyond recognition. Great pieces of loose tissue were hanging from the face. The man's scalp was badly burned. Nearly all the hair was burned off.

They were hastily conveyed to a nearby house and their injuries examined. I think it conservative to state that one-third of their body surfaces were burned, their entire faces, a large portion of their scalps, the back of the neck, their backs from the tops of their shoulders, including nearly half the body circumference and extending well down on the thighs. Their hands were wholly included in the burns. No part of either of their hands escaped. Their forearms and arms were almost covered with the burn. A small portion of the anterior aspect remained uninjured. The anterior surfaces of the chest and abdomen escaped. The lower limbs were not burned, except their feet, which were considerably burned. The injuries of both patients had almost exactly the same location and were of about the same extent, except the wife's scalp had escaped with little injury, due to a heavy head of hair.

Their injuries were all burns of the second and third degrees; there seemed to be on no part a burn of the first degree.

I will now take up the line of treatment used in these cases which will introduce some remedies and methods not mentioned in the general discussion.

They were suffering intense pain. I have never seen anyone in more agony than these unfortunate people. Morphia, ¼ gr., was administered hypodermatically at once. The remnants of clothing were carefully removed, but in spite of great care, great patches of burned and necrotic tissue came away with the clothing. Warm boracic acid solution was used in a feeble attempt to cleanse the wounds. The exposure of the raw surfaces to the air was causing additional pain. In an emergency case of this kind, resort of some remedy quick at hand had to be made.

The old-time remedy, carron oil, was employed. Strips of gauze were saturated in the solution and applied loosely. Several layers of cotton cloth were placed over the gauze strips. Cotton was applied as an outer dressing over the gauze and held in place with bandages. This dressing constituted the entire dressing to the injured parts, except the face was not covered with cotton.

The patients did not suffer collapse at this time, but were very weak. Their temperature was a little subnormal in a few hours and reached the subnormal mark several times in the twenty-four hours during the first few days.

Supportive treatment was given with small doses of whisky. They rallied very nicely next day. The morphia was repeated only occasionally to relieve the pain. Mrs. J. R. suffered very little pain after the first few days. The only time she complained of pain was when the wounds were dressed. The dressings were changed the next day and once in twenty-four hours for a period of about six weeks. Secretions were very copious from such large raw surfaces, making it necessary to change the dressings quite often. The carron oil solution was used to soak the old dressings. Considerable difficulty was experienced in freeing the strips of gauze.

The second day enormous blebs and blisters had formed over a large part of the burned area. They were kept evacuated at each subsequent dressing. Before fresh gauze was applied, the wounds were washed with warm boracic acid solution, all loose shreds and necrotic tissue cut away and dressed again as before. Mrs. J. R. had inhaled much heat and flame. She could not articulate above a whisper for several days and suffered intense pain in the throat. The mouth was washed with chlorate of potash solution several times daily. During this time she had to subsist wholly on a liquid diet of milk and soups. In less than a week, she had regained the use of her voice and her throat gave her very little trouble after that.

The wounds were dressed in the same manner for about two weeks. About this time the burned areas began to suppurate. The carron oil was discontinued for a time and aluminum acetate was tried. This was used for four or five days. The great difficulty with it was to keep it moist. The gauze became very dry and it was impossible to free it without lacerating the wound freshly at some point. Its antiseptic properties were in no greater evidence than the former remedy.

The carron oil was renewed for about ten days longer. This dressing was kept moist with the solution several times during the twenty-four hours by the nurse.

For the suppuration, hydrogen peroxid was used as a cleansing agent, but it caused so much pain to the patients, its use had to be discontinued. Weak bichlorid solution was used occasionally to cleanse the wounds. For the exuberant granulation tissue, which was very abundant and troublesome when the process of repair really began, a solution of 5 per cent. nitrate of silver was used.

The patients had a rise of temperature in four or five days after the injury. It was never very high, running from 100 to 103. The fever continued for about three weeks, after which there was only an occasional rise of temperature. The patients both became very delirious at times when the temperature was highest. They were closely watched all the time by the nurses in charge. Mrs. J. R. on several occasions got out of bed and was found wandering around in her room throwing her arms about wildly—when left alone for a few minutes.

They both kept up a low inarticulate muttering for about two weeks. Occasionally they would develop lucid intervals. It required very great care on the part of the attendants to take care of them and to prevent them from doing themselves bodily injury.

Small doses of chloral were tried which proved very useful to control the delirium. Occasionally morphia was given which seemed to be the only way in which they could be quieted. After the high temperature had subsided, there was no return of the delirium.

Mrs. J. R. was troubled with nausea and vomiting soon after her injury. Food was restricted to a liquid diet entirely; she was given sips of hot water; counter-irritation applied over the epigastrium and bowels kept open by enemas and occasionally a light laxative as phenolphthalein was administered.

The carron oil dressings were entirely discontinued in about three weeks after which boracic acid dressings were used for the most part during the remainder of the treatment. The boracic acid dressing was mild and non-irritating to the tissues. Several layers of gauze were cut into long strips, soaked in the solution, then unfolded and applied much like a bandage. Over the wet dressings were placed dry cotton cloths, over which heavy layers of cotton were applied.

The wounds suppurated considerably. The crusts and necrotic tissue were removed as often as they could be without exposing a bleeding surface. Deep sloughing did not occur in either case, except the hands, arms and forearms. The tendons on the backs of the hands were exposed.

No fixation apparatus was used in either case on account of the extent and severity of injuries and the pain of the parts. Passive motion of the arms, forearms and fingers was employed regularly after the first two weeks. This caused intense pain, especially in the hands.

At the end of eight weeks the injuries had nearly healed. Mr. J. R. had a small patch on his nose, several small ones on the scalp and one rather large area on one arm which had not yet healed. He had a good left arm, forearm and hand. The fingers of the left hand could be, at that time, almost flexed to the palm. The right arm, forearm and fingers were not in such good condition. The little finger had been burned deeply in the joint. Contraction had occurred and when healing took place, the little finger was held tightly flexed. The arm and forearm afterward healed well with perfect use. The fingers of the right hand could be flexed practically to the palm, but not so well as the other hand.

Mrs. J. R.'s wounds had almost entirely healed at the end of eight weeks. Unfortunately she did not have as good use of her hands as her husband. Having thin, bony hands, the deeper structures were more involved. She did not get the degree of motion that was obtained in the other case. Flexion is considerably limited. She is able to grasp ordinary objects, can dress herself and can do a great many things that the ordinary housekeeper has to do.

On October 22 following the accident of August 24 both patients were taken to Kentucky to their old home. They remained away all winter. Mr. J. R. was able to do light work in February. Two months later he began his work again as linesman and electrician and has continued at it ever since. He is in excellent health, has regained his weight and strength and suffers comparatively little pain. His hands handicap him considerably from normal usage. His hands, arms and face are disfigured for life. I saw him about nine months after the accident. His wounds showed very much less scar tissue than when I last saw him. His back shows very little scar tissue, although burned deeply and over a very large area.

Mrs. J. R. was seen early in September, 1910. Her wounds showed less scar tissue than when seen three months before. The sides of her face and neck are much disfigured. She has two large scar areas over either shoulder, but the most unfortunate thing in her case is the partial

loss of use of her fingers, making her a cripple for life.

The shock of the injury has left Mrs. J. R. in a weakened nervous condition. She suffers much pain where the burns were deep, as in the hands, face and across the shoulders. The pain, no doubt, is due to the irritation of the cutaneous nerves in the scar tissue.

Several of the remedies mentioned in the general discussion of the subject were not tried in these cases. Whether or not we could have obtained better results with other remedies or means, it is difficult to say. Skin-grafting was not attempted. Healing occurred by second intention and left no unhealed surfaces in either case.

DIPHTHERIA ANTITOXIN; ACTION AND DOSAGE *

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The discovery of the antitoxin for diphtheria was not due to the work of one man alone, but was the result of the labor of several investigators. Beginning with the work of Pasteur in 1880, who produced an immunity against chicken cholera by the use of attenuated and non-virulent organisms, the work was carried along by Salmon and Smith, Behring, Kitasato, Aronson, Frankel, Wernicke, Roux, Kossal and others in producing an immunity against diphtheria by the use of a specific serum. To Behring belongs, perhaps, the greatest honors, for in 1890 he announced that animals may be immunized against diphtheria by the use of blood-serum of an animal which had been affected with diphtheria, and also that a cure could be effected by the use of this same serum. In 1893 he used his serum in human subjects, and with the confirmation of his results by other workers the world was given one of its greatest assets in the fight against this disease.

In 1897 Ehrlich published his studies on the composition of the poison liberated by the diphtheria bacillus. As a fair understanding of Ehrlich's theory of immunity is necessary in order to appreciate much of the work done on the diphtheria toxin and the antitoxin, a very brief outline of part of the theory will be presented. In this theory the cell body is represented as having certain bodies attached to it called receptors. The toxin becomes united to the cell through these receptors and the cell is either killed or throws off into the blood-stream the toxin with the receptor attached. In the latter case the cell repairs its injury by the formation of new receptors, but in this process an excess of receptors is formed, many of which are thrown into the blood-stream and form the immune bodies. The toxin body consists of two parts: the haptophore group which unites to the cell by joining a receptor, and a toxophore group which contains the poison and which reaches the cell through the haptophore group. If a free receptor or immune body unites with the toxin body the latter is neutralized and thus the cell is protected. He believes that the poison generated by the diphtheria organism has several distinct components, of which two are of especial importance: the one, "toxine," which produces an acute death within a few days, and the other, "toxone," which is responsible for the late paralysis, but does not enter into the cause of the acute deaths. Many of the phenomena following the use of the antitoxin may be satisfactorily explained by this work of Ehrlich. The "toxine" has, as stated above, an haptophore group and a toxophore group. The "toxone" has the same haptophore group, which has a weaker affinity for the antitoxin, but a different toxophore group. In this theory of Ehrlich the toxophore group acts on the cell through the haptophore group after the latter has become attached to the cell. He also showed that the amount of "toxone" liberated varied enormously in different cases. In one it may amount to about one-fifth of the "toxine" and in another it may equal the "toxine." Dryer and Madsen describe a poison in which the "toxone" group was three times as great as the "toxine" group. This will explain the clinical observation that the severity of the toxemia does not determine the extent of the paralysis; that in mild cases of diphtheria extensive paralysis may result, while in the severe cases there may not be any paralysis.

Ehrlich also pointed out that the haptophore group became united to the cell receptor some time before the action of the toxophore group became manifest. By injecting the poison into the blood he found that in a short time all traces of it were lost, but it was not until later that there was any manifestation of a toxemia. The incubation period of the different diseases may be accounted for by assuming that the time required by the toxophore group to reach the cell through the haptophore group differs in different diseases.

Accepting this work of Ehrlich to be true as to the relation of the poison of the diphtheria bacillus to the cells of the body, we may assume that the toxin, which in the rest of this paper shall refer to the combined poisonous products of the diphtheria bacillus, unites very quickly

* Read before the Indianapolis Medical Society.

with the cells of the body, and that after this union has taken place there can be but little if any influence exerted by the antibodies floating in the blood. The clinical evidence shows diphtheria to have a sudden onset and a rapid course, and we may assume from this that the liberation of the toxin is rapid and in large quantities. To obtain the best result from the use of antitoxin it is thus necessary to use it early in the course of the disease in order to neutralize the toxin before it has become united to the cell body.

In laboratory experiments it has been found that if a given amount of antitoxin is injected immediately after a fatal dose of the toxin has been given that it will save the life of the animal; that if a delay of four hours occurs that ten times the amount of antitoxin will be needed, and if six to eight hours intervene that one hundred times the dose of antitoxin is needed to save the animal. Parks says that "after the cells have been to a certain extent affected by the toxin the protective power of the antitoxin can no longer be exerted and the lesion progresses in spite of it." The experiments of Donitz on small animals showed that the amount of antitoxin required to prevent symptoms, when given at the same time as the toxin, must be enormously increased if given a few hours after in order to protect the animal, and that after twelve hours, so close is the union between the cells and the toxin, that the largest doses of antitoxin are powerless to effect a cure. Moore and Hewlett are quoted thus: "After a certain delay there comes a time when no amount of antitoxin will save the animal. The mortality rises with delay in the use of the serum. With cases treated on the fourth day of the disease the mortality is nearly as great as in the pre-antitoxin days." All statistics thus show that the mortality increases with the length of time between the onset of the disease and the use of the serum.

With the bedside experience teaching that the best results are obtained by the early use of the antitoxin and the laboratory reports showing that after a delay of a certain number of days the antitoxin is of no value, the question arises, how long after the onset of the disease in the human subject can we expect to obtain any results from the use of antitoxin? After the initial dose has been repeated once or twice at ten-hour intervals, will additional serum be of value?

There is very little in the literature bearing on this important phase of the subject. Welch and Shamberg state that a few believe that the antitoxin is useless after the third day of the disease. In the large percentage of cases the antitoxin is given early, and as a result second doses are not as a rule necessary. In these cases the antitoxin has neutralized the large quantity of toxin thrown into the blood-stream before it has been united with the cells. The small amount of toxin that is liberated during the succeeding days is taken care of by the excess of antitoxin injected and by that generated by the body itself. But cases occur in which the symptoms of severe intoxication progress and the membrane does not disappear, even though large doses of antitoxin are given repeatedly. In these cases the damage has been done before the antitoxin has been injected or can be taken up by the blood. And it is here that we are still in doubt as to the value of additional serum. If we accept Ehrlich's theory as to the action of the antitoxin, which is apparently supported by laboratory experiments, then the large doses given late cannot be of any value, as the toxin has already united with the cells of the body and cannot be neutralized. Its only value can come in neutralizing the toxin liberated later, or that which has not become united to the cells. The normal average dose will suffice for this purpose. However, in the severe cases the few ill-effects of antitoxin are not to be considered, and until it is proved that additional doses of antitoxin are of no avail the physician will continue to use the large doses repeatedly. But with the evidence at hand, both of a clinical and of an experimental nature, one cannot expect to gain much after the first large dose has been repeated once.

The antitoxin has no effect upon the number or upon the virulence of the diphtheria organism located on the mucous membranes. During the year 1909 I made 607 cultures for release. Many of them were second or more cultures from the same patient. Although the history of the case was as a rule that the child received antitoxin and was sick for only a day or two and then ran about the house apparently well, the throats were rarely free of organisms until the end of the second week. In two cases I found the diphtheria bacillus in the throat nine weeks after the onset of the illness, although vigorous treatment had been used during this time. Rickards has shown that the time from the first positive culture to the last of two negative cultures varies from one to several weeks. His report gives 11 per cent. for less than one week, 38 per cent. between one and two weeks, 27 per cent. between two and three weeks and 24 per cent. for more than three weeks.

There are few tables of statistics relative to the time of the disappearance of the membrane from the throat in the days before and after the advent of antitoxin. Lennox Browne thinks that the serum has no effect on the disappearance of

the membrane and in support of his view gives two tables of 100 cases each of the two periods. According to his figures there was little difference in the time that the membrane left the throat whether antitoxin was used or not. Welch and Shamberg state that during the first twenty-four hours after the injection of the serum the membrane ceases to spread, and during the next twenty-four hours it begins to disappear. Almost all authors state that after the use of the serum the membrane rapidly disappears and that the throat is left in a better condition. Inquiry among the physicians who have had experience in both the pre-antitoxin and the antitoxin days elicits the same answer, that there is a marked change in the membrane, and that it disappears more quickly after antitoxin has been given. I have had the opportunity to observe but one case in which antitoxin was not used, and here the throat was not entirely free of an exudate until the sixteenth day.

Although antitoxin has been used extensively for sixteen years, there is still some difference of opinion as to the dosage. All agree that an early dose is essential, and that the results are in direct proportion to the time it is administered. The age of the patient is not a factor in determining the dose. The child requires as many units as the adult. If we admit that as much toxin is liberated in the child as in the adult (the local lesion being of about the same size), and also that the cells in the body of the former are more sensitive, perhaps a larger dose is indicated for the child than for the adult. The laryngeal and nasal cases require larger doses than do the tonsillar and pharyngeal cases. This has been attributed to the anatomic fact that in the former there are few lymph-nodes intervening between the point of infection and the blood-stream.

The dose of antitoxin is expressed in "units." Park defines the "unit" as "that amount of antitoxin which is necessary to protect the life of a guinea-pig from 100 fatal doses of toxin similar to that adopted as a standard, namely, one having the characteristics of toxin in culture at the height of its toxicity." Thus it will be seen that one unit of antitoxin will neutralize a large quantity of toxin.

Welch and Shamberg regulate the dose by the time elapsed since the onset and by the severity and location of the infection. Howland says that it is specific just in proportion to the time at which it is given. Royer (Municipal Hospital, Philadelphia) uses as his guide (1) amount of pseudomembrane, (2) location of pseudomembrane, (3) duration of the disease.

Five thousand units is the dose used by most physicians in tonsillar and pharyngeal diphtheria. This dose is to be repeated ever ten to twelve hours until the throat is free of the membrane. In the laryngeal and nasal cases larger doses—7,000 to 10,000 units—are advocated, as in these cases the intoxication has proved to be of a more severe type. Parks has two series of cases, one in which he used 10,000 to 20,000 units, and the other in which he used 3,000 to 5,000 units. He was unable to see that the larger doses had any greater effect than the smaller ones. Welch and Shamberg also think that it is doubtful if the larger doses afford any additional benefit.

Howland gives the following outline for dosage:

Mild attack, 2,500 to 4,000 units up to 2 years; 5,000 to 6,000 units for adults.

Severe attack, 5,000 to 6,000 units for child: 10,000 to 15,000 units for adults.

Laryngeal, 7,000 to 10,000 units for child; 15,000 to 25,000 units for adults.

Royer's outline is as follows:

Single tonsil, 2,500 units; both tonsils, 5,000 units; tonsils and uvula, 7,000 units; nares and pharynx, 7,000 to 10,000 units; nares and larynx or tonsils and larynx, 7,000 to 10,000 units. Repeat dose every twelve hours.

Northrup, Holt, Behring, Kerley and LaFetra give doses of 5,000 units. The one essential fact is that the dose, whatever it may be, must be given early in the course of the disease. If necessary, give the antitoxin and make the diagnosis later. A delayed diagnosis can do no harm and can be corrected, but every hour and every minute that passes after the infection has begun is used to advantage by the poison in its attack on the cell. That damage cannot be repaired by the physician.

The usual method of administering the antitoxin is by the subcutaneous injections. But few physicians have given it intravenously. Henderson Smith found that it took from two or three days for the serum injected subcutaneously to be completely absorbed, and Levin showed that the total amount of antibodies appearing in the blood was very much less than the amount injected. It has been advised that in the severer cases and in those seen late in the course of the illness that the serum be given intravenously. Fette injected 145 cases in this manner and believes that the lives of several were saved. E. Schreiber used the intravenous method in twenty cases, with one death. His dose was from 6,000 to 10,000 units. Although the patients improved rapidly and the symptoms of the toxemia cleared up, yet he could not observe any effect on the membrane. The

dangers from this method are comparatively few, and should not be considered in the treatment of the severe cases. Behring thinks that at least eight hours can be saved by this method of giving the serum.

The relation of the antitoxin to the post-diphtheritic paralyses is a very interesting one. The two extremes of causation and cure have been advanced. Rosenau and Anderson state that some form of paralysis occurs in about one-fourth of the cases of diphtheria, and that this feature comes in the mild as well as in the severe cases. From 2 to 4 per cent. of the deaths are due to some form of paralysis. Rolleston calls attention to the fact that an early paralysis is a bad prognostic sign. With the local paralysis we must bear in mind the influence of the other organisms and their local inflammatory reaction. Most writers think that the use of antitoxin does not exert any influence in regard to the paralysis, and that the greater number of post-diphtheritic paralyses is made possible by the fact that more cases of diphtheria recover and present that late stage of the disease when the paralyses are more frequent. If Ehrlich's theory is correct, then the use of antitoxin should lessen the number of cases of paralysis, as the "toxone" group, which is the cause of the paralysis, is to a certain extent neutralized by the serum. Ransom, in experimental work, came the conclusion (1) neutralized mixtures of antitoxin and toxin do not appear to cause paralysis; (2) antitoxin given fifteen to twenty-two hours after the toxin exercises a mollifying influence on the paralysis if given in large dose; and (3) we may expect the same results in the human subject. In France antitoxin is used extensively to cure the paralysis, and Comby has reported considerable success. In this country this phase of the antitoxin treatment has not been received with much enthusiasm, most of the physicians believing that the serum has but little, if any, effect on this feature of the disease.

The use of antitoxin as a prophylactic measure has become universal. The dose should be 500 units for children under 2 years and 1,000 units for those older. Clinical experience shows that this immunity lasts about four weeks and may be continued by repeating the dose. In the Boston Children's Hospital every child receives an immunizing dose within the first twelve hours, and this dose is repeated at the end of the third week. No ill-effects have been noted from this routine, and there has not been any diphtheria develop on the wards.

The ill-effects following the use of antitoxin are limited in their number only by the number of diseases to which mankind is subject. However, few of them are worthy of notice. Albuminuria has been found by Lennox Browne to be more frequent after the use of the serum, but Baginsky was unable to confirm this statement. Anuria has been noted. Numerous cases of sudden death have been reported, and unfortunately some of them have followed the use of immunizing doses. No good cause has been found for these deaths. Abscesses are of rare occurrence. Joint pains and rashes are very frequent, but of a transitory nature and unimportant. The rashes are not peculiar to the diphtheria antitoxin, but may follow the use of any serum. The differential diagnosis between these rashes and those of the exanthemata is at times very difficult. In the serum rashes one can almost always find an urticarial lesion.

Anaphylaxis is apparently of little importance in the use of diphtheria antitoxin. The word was created by Richet to apply to that condition which is the opposite of prophylaxis—that is, a condition of hypersusceptibility to a certain foreign substance rather than a condition of immunity to that substance. There are two steps necessary in the production of anaphylaxis. First, a foreign substance as a serum, protein, etc., must be injected. This produces the condition of hypersensitization. Second, a dose of the same substance must be given which will cause the intoxication. One dose of a substance cannot alone produce anaphylaxis. The condition known as "anaphylactic shock" is that state which follows the second dose and manifests itself by a stenosis of the bronchioli of the lungs, causing a respiratory failure. Auer and Lewis have shown that this is of peripheral origin, but have not been able to decide whether it is a direct muscular stimulation or an end-plate irritation.

Its relation to diphtheria is important, in that in this disease several doses of the serum may be given and thus present the conditions necessary for anaphylaxis. However, I do not know of any recorded cases of anaphylaxis occurring in diphtheria treatment. This may be due to the fact that in diphtheria the doses are repeated within ten to twelve hours, and the first dose has not had time to produce the state of hypersusceptibility. In animal experiments the best results in producing anaphylaxis are obtained when an interval of from twelve to thirty days occurs between the injections. I have seen in hospital work many immunizing doses repeated at the end of the third week without any bad results. Thus it would seem that the possibility of anaphylaxis is not a contra-indication to the use of antitoxin in diphtheria.

CONCLUSIONS

1. There are two elements in the poison liberated by the diphtheria bacillus (Ehrlich):

(*a*) Toxine, which causes acute toxemia.

(*b*) Toxone, which causes paralysis.

2. The antitoxin has no effect on the number nor on the virulence of the organism at the site of the lesion.

3. The dose should be 5,000 units for tonsillar and pharyngeal cases and 8,000 units for nasal and laryngeal cases. The age of the patient is not a factor in determining the dose. The immunizing dose is 500 units for children under 1 year of age and 1,000 units for those older.

4. The essential feature in the use of antitoxin is to give it early. Inject the serum first and make the diagnosis later.

5. The value of antitoxin when given late in the course of the disease is still an unsettled question, yet the experimental work would tend to show that it is of no value at this period in the illness.

6. In cases of severe toxemia or those seen late, inject the serum intravenously.

7. The effect of antitoxin on the late paralysis is still an unsettled question.

8. The ill-effects of antitoxin are of no great importance.

9. The possibility of anaphylaxis is not a contra-indication to the use of antitoxin in diphtheria.

504 Newton Claypool Building.

FOREIGN BODY IN THE ORBIT DISCOVERED BY THE MAGNET AFTER FAILURE BY THE *X*-RAY

FRANK A. MORRISON, M.D.
INDIANAPOLIS

The *x*-ray has generally been held to be the court of last resort in the determination of the presence or absence of foreign bodies in the eye or orbit. The following case, however, shows that, even in the hands of the skilled it is not infallible and that earlier and simpler methods still have a place.

J. N., a blacksmith previously employed in one of the large steel plants in the east, consulted me Oct. 20, 1910, giving the following history. Three months previous, while pounding a piece of hot iron, he felt something strike the left eye. It bled for a time rather freely and vision was rather indistinct but grew better in the course of a few minutes. He was at once placed in the hands of two exceedingly competent oculists who made a prolonged and careful examination for a foreign body. Two skiagrams were taken by an expert and the report given the patient by the three, which he exhibited in the way of a signed statement, was to the effect that the above examinations showed the absence of a foreign body.

At the time of coming under observation there was marked ptosis of the lid, with a limitation of the rotation of the globe upward. Vision reduced to fingers at three feet. Vitreous full of opacities. No distinct view of the fundus. No scar anywhere visible. To the suggestion that a further examination for the presence of a foreign body be made the patient at first objected, laying especial stress on the fact that a skiagram had been taken. However, he finally consented to a trial of the magnet. When the Johnson magnet approached to within two inches of the eye the upper lid bulged markedly in the middle and the globe advanced. Considerable pain accompanied these movements. Patient was placed in the hospital and anesthetized and the upper lid divided vertically. On applying the magnet the edge of a large piece of metal presented in the wound. This was shaped much like a finger nail and stood edge forward firmly imbedded between the upper surface of the globe and the roof of the orbit. Considerable force was necessary to dislodge it and it was necessary to rotate it so that its long axis was parallel to the edge of the lid before it could be withdrawn. The metal was almost the exact size and shape of the nail of the ring finger and weighed 75 grains. Recovery was uneventful with conditions as regards vision and motility of the lid and globe much the same as before the operation.

The interesting features of this case are, first, the absence of a scar showing the wound of entrance, so that it would seem that the metal must have passed between the globe and the lid horizontally and then suffered rotation to the position in which it was found. Second, the failure to find any evidence of its presence in the skiagram which had been taken by a highly competent person. Third, its detection by the ordinary magnet.

THE deputy auditor of state reports a total of more than $1,200 in the state hydrophobia fund, accumulated under an act of the recent general assembly, by which act 5 per cent. of the surplus dog fund in the counties is turned over to the state for the purpose of caring for indigent persons afflicted with hydrophobia. Under the law the fund, which is to be used under the direction of the state board of health, cannot be used for the purpose intended until $2,000 has been accumulated. The auditor believes that $2,000 will be raised in a short time, however, as the money already received represents approximately one-fourth of the counties.

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EDITORIALS

THE ADMINISTRATION OF GENERAL ANESTHETICS WITH SPECIAL REFERENCE TO ETHER AND CHLOROFORM

Under the above title Dr. Isabella C. Herb, in the *Journal of the A. M. A.* for May 6, 1911, discusses the subject of general anesthesia from the standpoint of one who has had not only a very large experience but has given the subject the closest study. So many of the facts brought out are of so much value to the medical profession that we feel justified in reproducing much that has been said, inasmuch as there is a great deal of misinformation existing in the minds of many physicians concerning this most important subject.

Among other things Dr. Herb says: "It is unquestionably true that the majority of deaths which occur during operations on patients not moribund are due to the anesthetic. Deaths due to operative procedure occur after the patient leaves the operating room. Every death after anesthesia should be recorded as such on the death certificate, and the accident reported to the coroner. This does not mean that the coroner should in every case hold an inquest. Indeed he should not do so if on inquiry he is satisfied that the anesthetic was administered by a responsible person with due care and skill. A fruitful source of deaths is the administration of anesthetics by untrained administrators and by those who have had a fair training but are careless, poor observers or are overconfident of the safety of the drug they are using. At present we have no absolutely safe anesthetic, and as this is an age of activity along research lines new anesthetic agents or combinations are suggested and tried. Questionable methods of producing anesthesia are responsible for a large number of deaths. Then, too, surgeons are frequently at fault in insisting on a deeper narcosis than is safe, particularly when an inexperienced individual is acting as the anesthetist."

Dr. Herb then makes a plea for didactic and practical instruction in the use of anesthetics as a part of the regular medical curriculum. The practical instruction should consist in the administration of anesthetics under competent guidance. Every hospital in which operations are performed should have on its staff a paid anesthetist who should be given complete charge of the administration of anesthetics. It should be his duty to visit operating rooms during operations and instruct, make suggestions or correct interns in their anesthetic work, and see that they do not perpetuate the evil practices handed down by their predecessors. He should administer all anesthetics requiring special skill. In the latter instance he should receive extra remuneration from all except charity cases.

Concerning the comparative safety of chloroform and ether, Dr. Herb says: "It is now quite generally conceded that the limitations of chloroform have been markedly increased, while those of ether have been decreased. Clinical results in careful research conclusively show not only that death during chloroform administration is much more frequent than when ether is used, but that evil after-effects are quite as common and much more serious. In the human subject the symptoms of late poisoning develop two or three days after the narcosis in patients who have shown no evil effects from the operative procedures. Death occurs in four or five days. Autopsy reveals small hemorrhagic foci in the gastro-intestinal tract, mesentery, omentum, pleura, pericardium. Kidney epithelium is swollen, contains fat droplets or is necrotic, no inflammatory changes being present. The most marked change, however, is found in the liver. The lobules are decreased in size, the parenchyma cells may be completely destroyed through fatty degeneration or necrosis, but no evidence of acute or chronic inflammation or change in the bile-ducts is present. Persons in good general physical condition are quite as apt to succumb to the poisonous effects of chloroform as the debilitated. The majority of reported deaths occurred before middle life. As the question of safety is of paramount importance and should dominate all others in the selection of an anesthetic, no one is justified in using chloroform except for definite reasons, or under peculiar circumstances. It should be remembered that the more chronic a lesion is the less important it is as a contra-indication to the use of ether."

Dr. Herb unhesitatingly condemns the practice of permitting nurses, even though trained as anesthetists, to administer an anesthetic, and for the reason that without medical training they are

unable to weigh physical findings, or to determine which anesthetic is the safest in a particular case. Dr. Herb, who is instructor in anesthetics at Rush Medical College, says that she has used the "open" method of etherization in over 15,000 anesthetizations, and considers that when properly used it is in all respects ideal. She prefers the Schimmelbusch mask, which is of good shape and sufficiently large to cover the mouth and nose without being cumbersome or complicated. The mask is covered with two layers of stockinette, medium quality, and this is all that should be used or is necessary except in cases of alcoholics. With the latter class of patients it is usually necessary to place three or four layers of gauze over the stockinette which should be removed as soon as the individual passes the stage of excitement. Placing ten, fifteen or twenty layers of gauze over the stockinette is not only unnecessary but it approaches the old "closed" method, except that the ether is dropped on the outside to evaporate, while the patient reinhales his own breath from within instead of the ether being poured inside of the cone and the patient allowed to breathe it and his carbon dioxid as was the case with the old method of etherization. It goes without saying that the more gauze one has over the mask the less air the patient receives and the more carbon dioxid he inhales.

Concerning drugging before general anesthesia, Dr. Herb protests against the routine giving of drugs before ether and chloroform anesthesia. The use of morphin with atropin or hyoscin in combination with ether and chloroform is absolutely detrimental in many instances. A number of instances have been reported in which alarming respiratory depressions or even deaths have been attributed to this practice of administering drugs before general anesthesia. Not the least of the objectionable features of drugging before general anesthesia is the masking of the most valuable of guides in anesthesia, namely the pupillary reaction. Morphin allays the reflex excitability of the air passages, thus retarding coughing and favoring the retention of aspirated blood or vomitus in the bronchi, which predisposes to pneumonia. Many people are unable to take morphin without distress or vomiting, and in such individuals the disagreeable after-effects of ether or chloroform would be aggravated. The much-lauded quieting effect of combination anesthesia, making the patient come to the operating room in a tranquil frame of mind, is of little advantage compared to the disadvantages of the method. Occasionally at the end of long difficult operations on debilitated patients, a stimulant may be indicated. Strychnin usually gives the best satisfaction. It acts in an ideal manner on respiration and circulation in a remarkably short time. However, most patients respond to warm saline solutions given per rectum, especially if there has been much hemorrhage. This has the added advantage of supplying fluid, thereby relieving thirst.

HODENPYL'S THEORY PARTIALLY CONFIRMED

The fact that Hodenpyl's case of supposedly cured cancer, from whom he secured the fluid with which to treat other cancer patients, has finally succumbed to metastatic cancer not demonstrable during life, proved a decided disappointment to the scientific world that had been hopefully watching for a favorable outcome. Some solace is afforded, however, by the results of the recent work carried on at the Massachusetts General Hospital, under the direction of the Cancer Commission of Harvard University and lately published by Edward H. Risley.[1]

The investigation was undertaken with a twofold purpose: (1) to determine whether any curative properties existed in the ascitic fluids of cancerous patients; and (2) to ascertain the effect on the cancer patient or his lesion, of the various non-cancerous, normal and abnormal body fluids. Reasoning along the lines of immunity, Hodenpyl thought that the cancer patient must have manufactured some antibody detrimental to cancer growth and promoting its regression. Weil, working with Hodenpyl's and other fluids, was unable to discover or isolate any such bodies.

Spontaneous regression of cancerous growths has been witnessed many times, MacKay having collected fifty such well-authenticated cases, but the causes for such regression remain as yet undetermined. It is possible either that there is produced within the body some substance acting on the stroma of the tumor in such way as to produce degeneration, possibly by cutting off the nutrition by a connective tissue barrier, or that some antibody is formed which acts on the cancer cell or its toxins.

In this investigation the patients of one group of cases (the larger one) were treated with ascitic fluids obtained from patients with cancer in all stages of the disease. In the hope of obtaining fluid of the highest potency, an effort was made to obtain that from the more highly-resistant cases.

1. Journal of the A. M. A., May 13, 1911.

The second or smaller group was composed of cancer patients treated with the various normal and abnormal body-fluids, non-cancerous; while a third group consisted of untreated cancer patients. Thus two classes of controls were offered those treated with cancerous fluids.

The fluids used in the second series were normal blood-serum, hydrocele fluid, spermatocele fluid, ascitic fluid from a case of alcoholic cirrhosis, ascitic fluid from a case of incompetent heart, pleuritic transudate from broken compensation and pleuritic transudate non-tuberculous in origin.

No beneficial effect was produced by any of these non-cancerous fluids with the exception of the spermatocele fluid which exerted a noticeable stimulant effect, especially on females.

The fluids from five different cancer patients were used, these being cancer of the liver, active general abdominal cancer, malignant papilloma of ovary (three cases).

The technic followed was the withdrawal, under aseptic precautions, of the fluid into a sterile bottle without any attempt at standardization and kept there until used. Before being used, however, a culture was taken to prove the asepsis of the fluid. Furthermore, a negative Wassermann reaction was obtained from each patient from whom the fluid was withdrawn; and a series of injections was given to cancer mice to prove the innocuousness to human beings.

Inoperable, non-selected cases were treated, forty-five in number and without question as to diagnosis, the pathologic examination having been made in all but three. The injections were given in four different ways: (1) subcutaneously, in large doses, in the skin of the abdomen or breast, remote from the local disease; (2) subcutaneously, in large doses, as near the tumor as possible; (3) into the substance or base of the tumor in small doses; (4) remote from the tumor in small doses. The dose varied from 5 m. to 50 c.c., the usual dose being 15 c.c.

A fact looking, in the author's opinion, toward the specificity of the fluids, was that local hyperemia and swelling almost invariably occurred in the tumor itself, whether the injection was into, near or remote from the growth. Constitutional reaction of a mild type followed in some cases, though never to a serious degree.

A résumé of the results obtained shows in five cases either absolute relief from or marked diminution in the pain previously complained of. In three cases a decided increase in the discharge from an ulcerated surface and a sloughing away of considerable portions of cancerous tissue, took place. Moderate increase in discharge from broken-down surfaces followed in all such cases treated and was usually followed by noticeable cleaning up in the ulcer and more healthy granulations. Cessation of bleeding was seen in several cases of cancer of the uterus. Retardation of growth from one to six months was apparent in eight cases. Physical and psychic effects of the treatment were often marked, twelve patients remaining in excellent general physical condition, gaining strength and weight in spite of a slowly growing process. On the other hand, in no case did actual shrinkage of the tumor occur, and in two cases the growth of the lesion seemed stimulated. Otherwise no harm was done in the entire series by the injections.

Twenty additional cases have been treated since the report on the original forty-five and these, along with the more prolonged observation of the original cases, have led the author to emphasize the following points:

"1. Great symptomatic relief can be obtained in a good percentage of the cases treated, evidenced by relief from pain and improvement in nutrition and general physical condition.

"2. Retardation is noticeable and prolonged from one to six months in many cases.

"3. Ascitic fluids are liable to hasten the process in practically all jaw and mouth cases.

"4. This work, together with the use of the *x*-ray in other cases, and curetting and skin-grafting sluggish epitheliomatous ulcers, has impressed me with the fact that much can be done for the relief of the seemingly hopeless inoperable cancer patient. While cures and benefit cannot be expected in every case, in spite of the fact that no cures have been accomplished, the work has emphasized the fact that much symptomatic relief can be given to suitable individual cases."

It is also interesting to note that in the original series of cases reported, the most promising result obtained was in a case of malignant papilloma of the ovary that was treated with her own serum, a phenomenon seemingly analogous to the increased efficiency of autogenous products in vaccine therapy.

It is greatly to be hoped that this line of research will be continued until all efforts at securing aid through the process of immunity have been exhausted. Even if this source offers only as much toward the solution of the cancer problem as it has in the bacterial infections, then certainly considerable will have been gained.

PARENTAL INSTRUCTION IN THE FIGHT FOR SOCIAL PURITY

Pursuant to his penchant for striking the nail squarely on the head, Editor Bok of the *Ladies' Home Journal* has seen fit to give space in the June issue to a page of common sense on the subject, "The Policy of Silence." The first of the two communications under this head is one by ex-President Eliot of Harvard, who tersely tells why he believes the policy of silence to be wrong. To quote:

"The arguments which have convinced me that children and young people should be systematically taught the natural, normal processes of reproduction in the human species, through the processes of reproduction in the flora and fauna, are chiefly these:

"Ignorance about the results of careless moral living is responsible for a large part of the miseries which they inflict on mankind; or in other words, if men knew what the consequences of their sins were likely to be they would not commit so many sins.

"The present policy of silence and secrecy has failed, having no tendency either to diminish vice or to protect the innocent from the vicious.

"The dread lest knowledge should increase vice is not well founded. That is not the common effect of knowledge in any moral field. On the contrary it is under cover of darkness and secrecy that most evil-doing takes place.

"Knowledge of evil does not necessarily impair purity and innocence. The public discussion of the evil consequences of immoral living and of the means of preventing it need not soil the mind of the purest man or woman, nor impair in any way the sacred privacy of right marriage relations.

"The evils which now afflict society as consequences of men's sins are so horrible and so widespread as to call loudly for new preventive measures, and the most promising of the new methods as yet suggested are public discussion of the evil and proper instruction concerning reproduction for the young.

"Society must be relieved by sound instruction of the horrible doctrine that the begetting and bearing of children are in the slightest degree sinful or foul processes. That doctrine lies at the root of the feeling of shame in connection with these processes and of the desire for secrecy. The plain fact is that there is nothing so sacred and propitious on earth as the bringing of another normal child into the world in marriage. There is nothing staining or defiling about it, and, therefore, there is no need for shame or secrecy, but only for pride and joy. This doctrine should be part of the instruction given to all young people.

"Another element in the instruction of the young on this subject should be that chastity is perfectly healthy for normal human beings. Much false doctrine has been preached to young men on this subject—often, I am sorry to say, by physicians. Hence the trivial way in which many people talk about 'young men's sowing wild oats.' Hence the absence of any expectation, until lately, that kings, princes and other 'great' people would observe the ordinary rules of morality. One of the excellent results of the recent exaggerated development of athletic sports has been the demonstration that abstinence from all vicious indulgences is necessary to the most effective training of the human body for violent and sustained exertion.

"Inasmuch as it is medical practitioners, health officers, army and navy surgeons, managers of hospitals and workhouses, and the officials in police courts who know most about the evils consequent on vicious personal habits, it is from public-spirited men belonging to these classes that we have a right to expect leadership in the educational campaign which is so urgently needed."

Surely we, as medical men, cannot escape the responsibility Dr. Eliot recalls to our profession nor should we have any desire so to do. In every other line of our work we are availing ourselves of all that preventive medicine can offer, yet we lack the stamina to raise our voices and demand a public recognition of and cooperation against an evil that is not only admittedly rampant but decidedly on the increase. We organize and demand that measures be taken and laws enacted to prevent maiming and the mutilation of fingers and hands one day in the year but for 365 days in the year we are more or less silently beholding the eyes of babies destroyed, the lives of wives and mothers invalided and the induction into the world of hopeless idiots. And all principally because we are afraid to speak out and demand that the public help us to help themselves.

Indeed the Right Rev. Arthur C. A. Hall who, on the same page with Dr. Eliot, tells his reasons for believing that mothers should speak out, well expresses the prevailing lethargy when he says:

"But I would very earnestly plead against an ostrich-like ignoring of evil, a disbelief in the existence of danger because we refuse to face it. As a matter of fact, from newspapers which children are allowed freely to read, and from realistic novels which aim at showing life as it is—and that on its spotted side rather than as it should be—a knowledge of evil or the suggestion of it

is often communicated to the child's mind while the parent dreams of it as being perfectly innocent."

It is utterly absurd to believe that knowledge of sexual life and all the intricate complexities thereof, gained from quack newspaper advertisements or careless associates, is better than a frank, kindly exposition of the whole problem at the hands of conscientious parents. The truth is that probably the big majority of parents selfishly shirk an unpleasant duty, resting content in the belief that their children will "come out all right," and not infrequently they painfully witness a son "gone wrong" instead, or a daughter ruthlessly imposed upon for lack of a little kindly instruction at the hands of her mother.

If the public expects the doctor to lead off in this matter, it is but fair that the parents pledge him their active support in proper instruction of their own children.

EDITORIAL NOTES

The Cass County Medical Society, through its secretary, has started the medico-political pot boiling by sending out letters stating that the Cass County and the Eleventh District Medical Societies are urging cooperation in making Dr. Charles H. McCully of Logansport president of the Indiana State Medical Association at the coming Indianapolis session.

The National Convention of the American Chemical Society will be held in Indianapolis June 28 to July 1. The convention will be attended by delegates from various parts of the United States, and many prominent chemists from foreign countries who are members of the society will be present and participate in the meeting. The program includes lectures specializing in industrial, pharmaceutical, organic and physical chemistry, pure foods and drugs, chemical education, fertilization and other kindred topics.

The Fort Wayne dentists have signed an agreement to close their offices every Wednesday afternoon until October 1. Most of them already close their offices on Saturday afternoon in keeping with the general tendency among all business men to make Saturday afternoon a half holiday. As yet we have not heard of any doctors who are so planning their work that they can take half holidays throughout the summer months. There is a growing tendency among the American people to take more time for leisure, and we believe that the medical profession should keep abreast of the times by following the example set by people in other vocations.

Many a physician is a true soldier in all that the word implies. In proof of this, another instance comes to our notice in the death of Dr. R. H. Ritter, secretary of the Indianapolis Medical Society. Thoroughly conscious of the rapidly approaching end due to Bright's disease, he continued up until a very few weeks of his death in the active practice of his profession, and, to use the words of the memorial adopted by the Indianapolis Medical Society, published in this number of The Journal, "he did not allow the consciousness of his physical affliction to modify in the least his indefatigable industry or dampen his courageous optimism and enthusiasm for the achievement of his ideals."

Dr. H. E. Barnard, state food and drug commissioner, says that the commission is trying to induce every health officer in the State of Indiana to act as a food inspector, and that if the plan succeeds Indiana will have an almost perfect food and drug inspection. Indiana is fortunate in having a man like Dr. Barnard at the head of the state food and drug commission, as he is not only well qualified for the work but is a man of determination and enterprise. Dr. Barnard has already served notice on the manufacturers and sellers of food and drug products that in so far as the law will permit he will prosecute every violator of the pure food laws, and this edict has had a remarkable effect in preventing deception and fraud which was so very common previous to the enactment of the pure food laws.

The Indiana State Board of Health has taken up the subject of the proper care of the teeth of school children, and is distributing a well-written paper by Dr. Charles S. Woods, secretary of the board, on the subject "About the Teeth." This paper is a simple discussion of the necessity of giving the teeth proper attention, and telling how it may be done. It is thought that a dental inspector will probably be employed as a part of the medical inspection of schools in the larger cities and towns of the state. The State Board of Health is to be congratulated on this movement, which is in the right direction. The medical inspection of schools has been of great value to those communities where it has been carried on, and with the public appreciating this fact it becomes easier for the State Board of Health to secure more rigid enforcement of public health regulations.

Dr. F. C. Heath, president of the Indiana State Medical Association, has a communication in the Correspondence Department of this number of The Journal which should be read by every member of the Association. He favors a shortening of the business meetings at the annual sessions of the Association and believes that this can be done by cutting out much of the superfluous discussion and wrangling over unimportant things. Attention is also called to the advisability of promoting more friendly intercourse among physicians. Lastly, Dr. Heath calls attention to the necessity for a more compact organization of the entire profession of the state, and the benefits to be derived from organization if all the members of the Association will join in upholding all that is for the best interests of the public and profession alike. He very justly criticizes the League of Medical Freedom which has opposed all of the more important reforms that relate to sanitation and public health. The communication is a plea for better things, and it is hoped that it will have some weight with those who read it.

Much has been said concerning the treatment of exophthalmic goiter with the serum of animals whose thyroid glands have been removed, or serums made by injecting into animals normal human thyroid or that of patients suffering from exophthalmic goiter. Thyroidectin prepared from the blood of thyroidectomized animals, has been highly recommended by a few clinicians, and the manufacturers in particular have done much to extend its use. In an article in the *Journal of the A. M. A.* of April 22, Hughes Dayton refers to the literature on the use of thyroidectin and quotes A. Kocher, who states that "thyroidectin is of inconstant and not of lasting benefit." E. M. Fisher, who says "thyroidectin has proved useless in my hands," and D'Orsay Hecht, who says "thyroidectin cannot be said to have ever stood approved." Dayton then gives the history of five cases treated with thyroidectin, and summarizes by saying that whatever improvement was noticed in any of the cases was due to rest, regulation of habits, and suggestion, or was a coincidence. He further says: "Results of treatment with thyroidectin seem far inferior to those secured by rest, symptomatic medicinal treatment or partial thyroidectomy."

Governor Marshall says that through education promulgated by the health officers and medical profession of Indiana, he discovered less than ten years ago that it was unhealthful to breathe the same air over and over again, and in consequence he began sleeping in a room with the windows widely open both summer and winter, and found that the treatment resulted in an increase of weight from 115 to 140 pounds. He also discovered that even milk might be used by a normal Democrat in small quantities at a time. He therefore approves of the work of the health officers of Indiana, and charges them with the duty of educating the people of Indiana how to live so as to come the nearest to avoiding disease.

It is fortunate that the Indiana State Board of Health has such a staunch friend and supporter in Governor Marshall. It is regretted that the average Indiana legislature is not composed of men who can second Governor Marshall in efforts to promote the general welfare of the people of the state. However, the last legislature was an improvement over predecessors, and this is an evidence that the truth concerning the value of public health work is slowly penetrating the dwarfed brains of the great army of small politicians who make up the majority of the office holders in our state government.

The miners in the Indiana coal fields have organized relief corps for furnishing first aid to the injured in the coal fields. Recently a field event was held at Linton in which the contests were for trials of skill in attending to imaginary ills and injuries of coal miners, and the contests were engaged in by squads of miners who have been under special instructions of Dr. A. F. Knoefel of Linton, councilor for the Indiana State Medical Association, who was employed by the coal company to instruct the miners in every phase of first aid work including everything from treatment for unconsciousness from noxious gases to caring for a splintered bone, and from dressing a shallow flesh wound to caring for a crushed leg. Prizes were ordered for the contests which were carried on under conditions as much like those in the coal mine as could be produced above ground, and efficiency and speed in the dressing of wounds, fractures, hemorrhages and in the application of artificial respiration, etc., was the gauge by which the contestants were graded by physicians and surgeons who had been selected to act as judges. "The Linton movement," as it has come to be called in the coal fields, is expected to extend to all the coal fields in Indiana and Illinois, as representatives from many of the largest coal producing companies in these two states attended the Linton Field Day, and undoubtedly obtained much valuable information which will encourage them to organize similar movements at home.

Ex-President Roosevelt has been advocating large families and preaching against race suicide. He probably would not be pleased to read some of the placards which were posted at the Child Welfare Exhibit held at the Coliseum, Chicago, early last month. In the health section a large placard bore the following inscription: "The bigger the family the higher the death-rate among the children." The chart also said that investigations made in 1,600 families in the congested districts of Chicago showed that in families of four children the death-rate was 118 in 1,000, whereas in families of six the rate was 267 in 1,000, and in families of eight 291 in 1,000. Early marriages were also decried at the Child Welfare Exhibit. One of the placards declared that "women should not marry before they are 20 years old; men should not marry before they are 25 years old."

In all probability if ex-President Roosevelt were to pass any comments on this information he would say that he deprecates race suicide among the class of people who are amply able to maintain large families under healthful conditions and without financial inconvenience. The deplorable fact is that not only the rich but those who are in comfortable circumstances are furthering the cause of race suicide while the very poor, and especially those who are living in the congested and unhealthful districts, are raising large families, probably to the future detriment of the human race. Nowadays the average woman, for purely selfish reasons and because of the general tendency of the times, has no desire to become a mother. The natural God-given instinct in this direction seems to be dwarfed by the desire to live a life of ease and enjoyment uninterrupted by the cares and responsibilities of motherhood. No wonder that Roosevelt and other sociologic students are preaching "back to the simple life."

The Indiana physicians who are planning to attend the Los Angeles session of the A. M. A. will have the choice of several desirable routes for the going trip. The Santa Fe Railroad will have a special train known as the American Medical Association special, which will leave the Dearborn Street Station, Chicago, at 8 p. m. on Wednesday, June 21, and arrive at Los Angeles at 7 a. m., Monday, June 26. The train will make the side trip to the Grand Canyon of the Colorado where a stop of twenty-eight hours will be made for the purpose of giving the passengers an opportunity of viewing and exploring the wonders of that scenic place.

The Chicago and North-Western Railway will also have a special train known as the American Medical Association special, which will leave the North-Western Station in Chicago at 9:15 p. m. on Thursday, June 22, and arrive at Los Angeles at 4:30 p. m. on Sunday, June 25. From Chicago the route is over the Chicago and North-Western Railroad through Omaha, Grand Island, Cheyenne, Ogden to Salt Lake City, where a stop of five hours will be made for the purpose of giving the passengers an opportunity to visit the Mormon Tabernacle and other points of interest in the city of "latter day saints." From Salt Lake City the route will be over the Salt Lake route through the heart of the orange growing district to Pasadena and Los Angeles.

For those who desire to leave as late as possible and yet be on hand for the sessions on Monday, it will be possible for them to leave Chicago by the North-Western route at 9:15 p. m. on Friday, June 23, and arrive in Los Angeles at 4:30 p. m. on Monday, June 26.

Particulars concerning travel by either of the routes herein mentioned may be obtained by addressing the general passenger agents in accordance with information as given in the advertisements of the Santa Fe and North-Western railroads contained in the advertising pages of this Journal.

An octopus which we don't like is the League for Medical Freedom. It is doing a tremendous amount of damage by its opposition to needed medical legislation along all lines relating to the public health throughout the United States. In the excellent California Legislature, for instance, this year, efforts for better sanitary laws were largely blocked by this organization, thoroughly equipped with ready money, and extensive in its hold on the imaginative minds of many citizens. These gophers have worked underground since the league came into existence, to counteract the Pure Food and Drugs Act of 1906. The membership is composed for the most part of those who were hit hard by the act. Expensive lobbies are maintained at Washington and in many state capitals for the purpose of defeating health legislation. In 1909-11 important bills relating to the health of the nation were held up in Congress at the instigation of the league. It is alleged that $25,000 per week was spent by the league lobby.

There is probably no accurate way of computing the amounts that have been spent in Washington or at the various state capitals. One method of attack consists in sending showers of telegrams of protest to the senators and representatives from all parts of the Union, and especially from the home districts of the lawmakers.

These protests are invariably misrepresentations of the real purpose of the proposed legislation. Organizations have been formed in every state of the Union, and attorneys employed to represent the league before conventions, legislative committees, and municipal meetings of all kinds. Another plan of procedure is to send circular letters to delegates of conventions requesting them in the name of "Liberty and Fraternity" to vote against any medical resolution that might be introduced. It has always been difficult to get appropriations for health purposes, and if this league continues to fight the health authorities we must expect an increase in the death-rate in all states in the next year or two. In Chicago, where the league is strongest, in 1908 the death-rate was 14.08 per thousand per annum; in 1910 it was 15.21 per thousand.—*Collier's Weekly*, May 6, 1911.

Gradually but surely salvarsan, or as it is popularly known, "606," is coming to its proper place as a remedial agent in the treatment of syphilis. In the first burst of enthusiasm it was thought by the medical profession and laity that the remedy would prove a specific for syphilis in any of its forms, or in any stage of the disease. Experience with the remedy seems to indicate that there is a well-defined field for the use of salvarsan, and that it really acts phenomenally in a certain percentage of cases, though its field of usefulness is not as broad as originally claimed. It seems to be the consensus of opinion among those clinicians, and particularly syphilographers who have had most experience in the use of salvarsan, that the remedy is an invaluable addition to our armamentarium, but that we are not justified in depending on it to the exclusion of the older and time-tried specifics.

In this connection we desire to quote Dr. W. S. Gottheil in his discussion in the symposium on salvarsan, presented before the Medical Society of the State of New York at its last annual meeting held at Albany April 18 and 19, 1911. His remarks, abstracted from the *Journal of the A. M. A.*, May 6, 1911, were as follows:

"Salvarsan is valuable in certain cases as an additional weapon in our armamentarium, but it does not accomplish the marvels attributed to it. It does not cure any more than does mercury. It is powerful in combating symptoms. Symptoms of the persistence of syphilis appear more frequently after treatment with salvarsan than after treatment with mercury. Individuals recently infected are the only ones in whom its efficacy must be admitted. Mercury is still the antisyphilitic for general use. The latest advice from high places is to use salvarsan first and then to go back to mercury. Cases of idiosyncrasy in which mercury cannot be borne are not so frequent as some would have us believe since the discovery of salvarsan. Salvarsan has been efficacious in the early type of syphilis. The symptomatic effects are equal to those of mercury and sometimes fail. Salvarsan is as useless as mercury in late cases. It is useful in persistent lesions, in mucous patches and in cases not permitting of long medication."

Bacterial vaccines have been used in the treatment of various subacute and chronic infections, and recently much has been written concerning this form of treatment in the management of suppurative otitis media. An article by Weston and Kolmer in the *Journal of the A. M. A.* of April 15, gives a résumé of the results secured from vaccine treatment of 100 cases extending over a period of nine months. Attention is called to the fact that suppurations of the ear offer hope for success by vaccine treatment because the condition is local and the offending organisms can usually be easily secured. Mixed vaccines were not employed but each organism was isolated and standard vaccines were made from each. The dosage and the time of administration of the vaccine depended on the clinical aspect of the patient. The tendency favors a smaller dose with longer intervals between each. As a rule the sicker and weaker the patient the smaller the dose, but each case is a law unto itself. Dosage is controlled according to temperature reaction and the local and general condition of the patient. The doses are repeated under ordinary circumstances every five to eight days. The initial dose for the average patient ten years of age was about as follows: *Staphylococcus aureus* and *albus*, 15 to 40 millions; *Bacillus pseudo-diphtheriæ*, 30 to 50 millions; *Streptococcus pyogenes*, 5 to 10 millions; *Bacillus pyocyaneus*, 50 to 80 millions. After comparing the percentage of patients who were cured under the usual treatment with those cured under vaccine treatment, the writers tentatively draw the following conclusions: (1) the best time, all things considered, for commencing the vaccine treatment in cases of otitis media is from the eighth to the sixteenth day of the discharge; (2) continued high fever, nephritis, toxemia and various intercurrent affections are contra-indications to the administration of vaccines; (3) under vaccine treatment three times as many patients are cured within thirty days and permitted to go home as under the usual treatment.

This means that the average residence of a patient in the hospital has been considerably decreased; (4) in general, cases of otitis media offer a fruitful and encouraging field for the employment of vaccine therapy.

CORRESPONDENCE

THE PURPOSES OF OUR STATE MEDICAL ASSOCIATION

Indianapolis, Ind., May 25, 1911.

To the Editor:—"The purposes of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Indiana, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life." (Article 2, Constitution, Indiana State Medical Association.)

We must not allow ourselves to lose sight of any of the purposes of our Association, so admirably set forth in the above article of our Constitution, nor fail to appreciate their full meaning. Some are in danger of laying all their stress on one of these purposes, for example, "to extend medical knowledge and advance medical science," losing sight of others equally important, while another class may think only of the somewhat selfish, although by no means unimportant, purpose, "to guard and foster the material interests of its members and to protect them against imposition."

Certainly one of the greatest objects of the Association is the extending of medical knowledge and advancing medical science: this is the great feature of our annual meetings, but sometimes the scientific program suffers, when too much time is devoted to business sessions, comparatively unimportant things being discussed at great length and trifling differences exaggerated into factional issues to be thrashed out as if they were matters of life and death. And sometimes one would think our Association not altogether unlike that of the woman, who, when asked the main purpose or object of her club, replied, "The election of officers."

It will be my aim, at the coming meeting, to get the business transacted as quickly and smoothly as possible. This does not mean that any injustice will be done any member having anything to say or present, but I expect to have the cooperation of all in efforts to dispatch business with the least possible interference with the scientific sessions. There can be no doubt that the bulk of the profession is united in purpose, "to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws," but individual exceptions, chiefly through jealousy, fancied grievance or misunderstanding, tend to thwart these purposes, as far as their influence goes. As medical education now belongs to the state and loyalty to the cause implies support of the State University, anyone with a grievance should visit his wrath, if at all, not on the institution, but on the individual he may think responsible for the injustice done him. The outlook for medical education in this state is now very promising. Let everyone give his cordial support.

And we should aid our public policy committees in their efforts to secure good legislation and prevent that which is vicious, and also assist the State Board and county authorities in enforcing the laws, avoiding obstructive tactics and unfriendly criticism, remembering that ideal conditions are impossible but we strive for the best attainable. I very much doubt if we have begun to realize our duty, "to enlighten and direct public opinion in regard to the great problems of state medicine." Of course we have done a great deal for the public in this line, which has not been appreciated, and in the face of fierce opposition from those who were to be most benefited. But too often we hold back from fear of criticism or misunderstanding of our motives. Yet evils exist of which we know more than others and silence would make us, to a considerable extent, responsible. We should not be pessimistic. Let us look up and speak up. Truth is stronger than error and will prevail.

We have realized more fully in recent years that one of the most important objects of the Association was "to promote friendly intercourse with physicians," and there is much less unfriendliness and petty quarreling than there used to be. Doctors learn that running each other down gives the public a poor opinion of the profession and so all parties to the controversy suffer. It is just as easy to find something to like in a confrère as to criticize, if we look for

it. As Lowell says, "Be noble and the nobleness that lies in other men, living but never dead, will rise in majesty to meet thine own." It is a source of great satisfaction to me that I am on good terms with all my confrères.

I have intentionally kept for my last words the purposes given first in our Constitution, "to federate and bring into one compact organization the entire profession of the State of Indiana and to unite with similar societies of other states to form the American Medical Association." Of what use is it to have the form of organization unless we are really united and work as one man for the great essentials? The emphatic word above is *compact*. We need to get together more closely. This is the more important since organizations of fakers, under such names as "League of Medical Freedom," seek to muddy the waters and kick up clouds of dust in the atmosphere about "Doctors' Trusts," knowing that the doctors unite only for the benefit of humanity, and this League of Medical Freedom opposes sanitary reform, pure food legislation and everything else tending to protect the people from preventable diseases, injurious drugs and unprincipled frauds. We need to unite to fight the common enemy and thus we shall also foster our material interests.

The great question for us is not who hold the offices and manage the affairs of our State and National Associations, but how are those affairs managed. Are the purposes of the Association as given in our Constitution realized? Are we doing all we can as an Association for the good of the profession and people of Indiana?

I was much impressed, at the last meeting of the Council, by the way important matters were discussed, various suggestions being made, the final decision embodying, not the first opinion or dictation of any individual, but the combined wisdom of a body of fair-minded, candid and conscientious gentlemen, and, as we also have an able editor and a new secretary who is "making good," we can rest assured that the affairs of our Association are in good hands, and, if we present a united front, we can accomplish great things for the profession and people of our beloved state.

F. C. Heath.

President, Indiana State Medical Association.

DEATHS

Dr. William R. Richards, aged 32, died at his home in New Albany, May 10, of pneumonia.

Mrs. Margaret C. Ferris, aged 87, widow of Dr. Samuel Ferris, died at the home of her daughter in Newcastle, May 12.

Dr. Horace Coleman died at his home in Washington, Ind., May 12, aged 87. Dr. Coleman was surgeon of the Forty-Sixth Regiment, Indiana Volunteers, in the Civil War.

Dr. Andrew G. Cooper, an intern in the Indianapolis City Hospital, was killed almost instantly May 14, as a result of the collision of the hospital ambulance with a street car.

Dr. Henry M. Crouse, aged 81, died at his home in Knightstown, May 28. He had practiced there since 1865. He served as a surgeon in the Fifty-Seventh Indiana Infantry during the Civil War.

Dr. William H. Kindleberger, who had practiced medicine in Indianapolis thirty-seven years, died May 2 at his home, from erythema. Dr. Kindleberger was born Feb. 25, 1847, at Casstown, Ohio. He graduated from the Indiana Medical College in 1874.

Dr. William H. Bell, one of the oldest physicians in Logansport, died suddenly May 3. Dr. Bell was born in Morristown, N. J., Sept. 21, 1839, and graduated from the University of Toronto in 1864, coming to Logansport in 1868. He was president of the Indiana State Medical Association in 1883, and attended the International Medical Congress in Berlin in 1890. He was a member of the Cass County Medical Society.

Dr. Washburn Tilson of Lafayette died suddenly at St. Elizabeth hospital of neuralgia of the heart May 26, after about three months' illness. Dr. Tilson was born May 27, 1865, at Franklin, Ind. After graduation from the common schools he entered Franklin College, where four years later he received the degree of master of arts. From Franklin College he entered Yale, making a special study of chemistry and toxicology. Returning to the west Dr. Tilson attended the Chicago Homeopathic Medical College. Dr. Tilson had served as city health officer and deputy coroner.

RESOLUTIONS OF RESPECT

Since it has pleased the Almighty to take from our midst on May 9, 1911, our brother practitioner, Dr. Charles Magnus Brucker of Tell City, Indiana, be it

Resolved, That by his death this Society has lost one of its most active members; one who has never shirked his duties toward this society nor his patients, but stood at his post ready to administer to the sick almost to his last hour; and be it also

Resolved, That we try to emulate him professionally and cherish his memory by always keeping a warm spot in our hearts for him, and be it further

Resolved, That we extend to his relatives the sympathy of this society; that a copy of these resolutions be placed on the records of this society; that a copy be sent to the secretary of the Indiana State Medical Association; to The Journal of the Indiana State Medical Association, and to our local papers.—The Perry County Medical Society.

MEMORIAL RELATING TO THE DEATH OF DR. R. H. RITTER, ADOPTED BY THE INDIANAPOLIS MEDICAL SOCIETY

Dr. R. H. Ritter, born Sept. 18, 1873. Died May 6, 1911, of acute Bright's disease. A threatened break occurred in the summer of 1910, but a month's rest brought apparent restoration to health. Six months ago renal insufficiency became manifest, with remittent high blood-pressure, profound anemia and persistent nausea, terminating finally in acute cardiac failure.

No one among us was more competent to interpret the urinary findings than he. Yet he did not allow the consciousness of his physical affliction to modify in the least his indefatigable industry or dampen his courageous optimism and enthusiasm for the achievement of his ideals.

Much of his time and best thought were given toward developing in the medical school higher standards and methods of medical teaching. As chairman of the Curriculum Committee of the Indiana University School of Medicine he performed well, perhaps the most difficult of all the tasks in connection with the réorganization of the teaching forces.

From the time of his selection as secretary of the Indianapolis Medical Society several years ago to the present, he performed the arduous duties of that office with conscientious fidelity and thoroughness, insuring his reelection from year to year. The stimulus of his influence was felt distinctly in the betterment of programmes in both the County and State Medical Society. During the year past he has been working quietly but persistently to secure the means to establish a permanent home for the society. He has recently been very active in endeavoring to organize a social service department for the worthy poor at the Bobbs Free Dispensary. And thus always he has labored incessantly for the achievement of his ideals—professional and ethical.

As a practitioner he exhibited those qualities of thoroughness in diagnosis, skill in management and fidelity to the patient's interest which endeared him to those who came under his professional care.

In all his relations in life absolute sincerity and frankness marked his conduct. And thus he wrought among us for a brief span of years, it is true, and yet how much! He was the "Good man skilled in healing" and more. He was an ideal citizen, rendering in full measure the obligations due the community. In religious life too he met the highest modern conception of duty. To parents he was the ideal husband and father, leaving to them the priceless heritage of a spotless character and splendid achievement. To them we tender our deepest sympathy in their great sorrow. We grieve also at the loss of our brother but rejoice in the splendid life that he lived.

NEWS, NOTES AND COMMENTS

Dr. P. S. Johnson, formerly of Gary, has recently moved to Sheridan.

Dr. W. E. Thomas of Clarksburg is doing postgraduate work in the Chicago Policlinic.

Drug store, medical practice and office outfit offered for sale cheap. See advertising pages.

Dr. L. P. Drayer of Fort Wayne spent some time at Johns Hopkins Hospital at Baltimore during May.

Warrants have recently been issued against fifty-five Indianapolis meat dealers whose meat is insecurely protected from dust.

Dr. Hardin S. Dome, president of the Perry County Medical Society, returned home May 22 after spending his vacation touring the south.

Dr. B. W. Sullivan of Indianapolis has been recently appointed a member of the Indiana Commission for the Preservation of Battle Flags.

Dr. J. N. Hurty, secretary of the state board of health, recently addressed the Ohio State Medical Association at Cleveland on "Practical Eugenics in Indiana."

The meeting of the Tippecanoe County Medical Society held May 26 was given up to a discussion of the automobile from a business and practical standpoint.

The Northern Tri-State Medical Association met in Toledo June 6. Dr. B. W. Rhamy of Fort Wayne presented a paper on "The Present Status of Vaccine Therapy."

A report analyzing the births and deaths in the City of Indianapolis in 1910 shows the birth-rate for the year to be 20.03 to each 1,000 inhabitants and the death-rate 17.28 to each 1,000 inhabitants.

Thirteen young women were graduated from the Nurses' Training School of the Protestant Deaconess Hospital at the annual commencement exercises held recently. Dr. David Ross delivered the principal address.

Dr. G. D. Miller of Logansport left June 11 for Los Angeles to attend the annual session of the American Medical Association, and while west will make side trips to Alaska, and while returning visit the Yellowstone Park.

Gibson County, which last year observed a rat killing day, repeated the performance this year on June 6. It is aimed, if possible, to make the movement state-wide, and to interest all citizens in the desirability of eradicating rodents.

At a meeting of the executive committee of the National Wholesale Grocers' Association at the Claypool Hotel, Indianapolis, May 22, it was decided to continue the campaign in the various states for uniform pure food laws.

Quite a number of physicians in northern Indiana have joined the Fort Wayne party for the trip to Los Angeles to attend the annual session of the A. M. A. The car will leave Fort Wayne June 21 and at Chicago will be transferred to the Santa Fe System.

At the last session of the State Sisters of Charity (colored), more than $500 was subscribed by members of the organization toward the fund for the new free colored hospital, Fifteenth and Missouri Streets, Indianapolis. The hospital will be opened June 1.

Dr. Andrew G. Cooper, an intern in the Indianapolis City Hospital, was killed almost instantly, and Miss Gladys Freeland, a nurse, was painfully injured May 13 in a collision between the hospital ambulance and a street car at Tenth Street and College Avenue.

Jay Cravens, formerly a water chemist at Omaha, Neb., assumed charge of the water laboratory of the state board of health May 15, under appointment by H. E. Barnard, state food and drug commissioner. Cravens is a native of Indiana, graduating from Purdue University in 1908.

Beginning June 1, the large egg dealers and shippers of the state are buying eggs "loss off," compelling the farmer to sell good eggs or none at all. This decision is in line with the amendment which the last legislature added to the Pure Food Law, making it a violation of the law to offer a bad egg for sale.

Because many persons daily visit the City Hospital, Indianapolis, and because patients partially recovered are discharged and have no other means of transportation beside the street car, the Indianapolis Medical Society recently resolved that the cars on the Blake Street line return past the front door of the hospital.

The following physicians have recently been appointed to serve as interns at the Protestant Deaconess Hospital during the ensuing year: Arthur A. Rang, Garrett; Thurman R. Beaver, Fishers; David Lutes, Yellowstone; and W. E. Tinney, Lafayette. All are graduates of the Indiana University School of Medicine.

Three rules have been added by the state board of health to the regulations for the handling of foodstuffs in the state under the food and

drug laws. The first of the rules pertains to the handling of foodstuffs under the cold storage law and the other two to handling dairy products when dairies or manufactories are insanitary.

During the past month the Council on Pharmacy and Chemistry of the A. M. A. has voted to accept Hegnon (Schering & Glatz) for inclusion with New and Nonofficial Remedies. It also voted that the Roessler & Hasslacher Chemical Co. brand of sodium perborate be listed with non-proprietary preparations of sodium perborate.

Dr. J. N. Hurty, secretary of the state board of health, has prepared an outline of sanitary subjects for consideration by the teachers of the schools. The outline will be printed, and a copy placed in the hands of every teacher in the state by the time school opens next fall. The outline entitled "Things to Teach in the Schools" includes information concerning preventable diseases, danger from flies, rats, etc., choice of foods and care of the body; also that pure air is the best tonic.

After several months' study of sanitary conditions in the Calumet district, embracing a considerable part of Lake County, and Cook County, Illinois, H. E. Barnard, state food and drug commissioner, and J. H. Brewster, former head of the water laboratory of the state board of health, have recommended the establishment of a Calumet sanitary district, similar to the Chicago sanitary district, in order to provide for the disposal of sewage from the rapidly developing territory in the Calumet region.

Fourteen bread boxes in various stages of uncleanliness have recently been seized by inspectors employed by the state board of health, and are being held in the laboratory of the department as evidence against Indianapolis restaurant and grocery keepers, against whom affidavits will be filed charging failure to comply with the sanitary food law of 1909. The crusade against the dirty bread boxes is a part of a general crusade which the state board of health has ordered in Indianapolis, and which has been going on for some time.

Several Indiana doctors will take part in the Los Angeles session of the American Medical Association. Dr. C. A. Daugherty of South Bend is a member of the Board of Trustees; Dr. Frank B. Wynn of Indianapolis is director of the scientific exhibit; and Dr. Albert E. Bulson, Jr., of Fort Wayne is chairman of the Section on Ophthalmology of the Association. Drs. M. F. Porter, Fort Wayne; F. A. Tucker, Noblesville; A. C. Kimberlin, Indianapolis; and C. H. McCully, Logansport, are delegates to the A. M. A. from the Indiana State Medical Association. Papers will be presented by Drs. J. F. Barnhill and Frank B. Wynn.

SOCIETY PROCEEDINGS

INDIANA STATE MEDICAL ASSOCIATION

The following is a list of those who have paid Association dues between the dates May 1 and June 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the May number includes all those who paid dues to May 1, or up to 2211, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the March, April, May and June numbers constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address.	County Society
2212	Chas. R. Vickery, South Bend	St. Joseph
2213	A. E. Rogers, Somerset	Wabash
2214	Geo. L. Shoemaker, North Manchester	Wabash
2215	H. H. Dutton, Paragon	Morgan
2216	W. C. Cauble, Salem	Washington
2217	Wm. R. Boggs, Salem	Washington
2218	A. H. Shaffer, Huntington	Huntington
2219	H. S. Osborn, Pittsboro	Hendricks
2220	A. G. Porter, Terre Haute	Vigo
2221	C. M. Smick, Terre Haute	Vigo
2222	W. F. Willien, Terre Haute	Vigo
2223	J. P. Worrell, Terre Haute	Vigo
2224	S. J. Young, Terre Haute	Vigo
2225	Wm. Palm, Harmony	Clay
2226	D. W. Robertson, Deputy	Jennings
2227	Calvin L. Rowland, West Point	Tippecanoe
2228	J. C. Alexander, Newton Claypool Bldg, Indianapolis,	Marion
2229	D. A. Anderson, Newton Claypool Bldg., Indianapolis	Marion
2230	H. K. Bonn, 2210 Central Ave., Indianapolis	Marion
2231	G. A. Cable, New Augusta, Ind, Indianapolis	Marion
2232	W. S. Dow, 4800 Central Avenue, Indianapolis.	Marion
2233	L. M. Dunning, 1529 E. 17th Street, Indianapolis.	Marion
2234	J. H. Eberwein, Newton Claypool Bldg., Indianapolis	Marion
2235	J. H. Ford, Newton Claypool Bld., Indianapolis.	Marion
2236	K. C. Ford, 1111 W. New York St., Indianapolis.	Marion
2237	H. L. Fulenwider, 2701½ College Ave., Indianapolis	Marion
2238	M. N. Hadley, Willoughby Bldg., Indianapolis.	Marion
2239	A. R. Harold, 2167 N. Illinois St., Indianapolis.	Marion

No.	Name and Address	County Society
2240	N. E. Harold, Newton Claypool Bldg., Indianapolis	Marion
2241	G. R. Hays, 104½ W. 16th Street, Indianapolis	Marion
2242	E. C. Helwig, 2022 N. Meridian Street, Indianapolis	Marion
2243	H. A. Jacobs, 403 N. Liberty Street, Indianapolis	Marion
2244	T. C. Kennedy, Penway Bldg., Indianapolis	Marion
2245	E. S. Knox, 1404 Hoyt Avenue, Indianapolis	Marion
2246	O. C. Lukenbill, 2219 E. Washington St., Indianapolis	Marion
2247	C. H. McCaskey, 3761 N. Illinois St., Indianapolis	Marion
2248	J. F. McCool, 1423 E. Washington St., Indianapolis	Marion
2249	P. E. McCown, Newton Claypool Bldg., Indianapolis	Marion
2250	Chas. McNaul, Newton Claypool Bldg., Indianapolis	Marion
2251	F. A. Morrison, Willoughby Bldg., Indianapolis	Marion
2252	R. C. Ottinger, Newton Claypool Bldg., Indianapolis	Marion
2253	E. M. Outland, Newton Claypool Bldg., Indianapolis	Marion
2254	F. V. Overman, Willoughby Bldg., Indianapolis	Marion
2255	E. E. Padgett, Willoughby Bldg., Indianapolis	Marion
2256	L. F. Page, Willoughby Bldg., Indianapolis	Marion
2257	A. C. Pebworth, Willoughby Bldg., Indianapolis	Marion
2258	J. A. Pfaff, Newton Claypool Bldg., Indianapolis	Marion
2259	R. E. Repass, 3802 N. Capitol Ave., Indianapolis	Marion
2260	C. R. Schaefer, Willoughby Bldg., Indianapolis	Marion
2261	F. N. Shipp, The Penway, Indianapolis	Marion
2262	C. R. Sowder, The Penway, Indianapolis	Marion
2263	F. L. Sullivan, 121 E. 16th Street, Indianapolis	Marion
2264	Moses Thorner, K. of P. Bldg., Indianapolis	Marion

FIFTH DISTRICT

The fourth annual meeting of the Fifth District Medical Society was held in the Commercial Club Rooms, Terre Haute, May 18. The following officers were elected: President, Dr. Harold Pierce, Cloverland; first vice-president, C. C. Givens, Lewis; second vice-president, J. M. King, Greencastle; treasurer, M. A. Boor, Terre Haute; Secretary, J. R. Gillum, Terre Haute.

The program consisted of the following papers: "Diseases of Children," G. W. Finley, Brazil; "The Justification of Early Prostatectomy," F. H. Jett, Terre Haute; "Infantile Paralysis," C. S. White, Rosedale; "Diagnosis and Treatment of Empyemia," Harry Elliott, Brazil; "A Technic for Enucleation of Tonsils," J. R. Gillum, Terre Haute.

The next meeting will be held in Rockville on the second Thursday in November.

Adjourned. J. R. Gillum, Secretary.

NINTH DISTRICT

The regular meeting of the Ninth District Medical Society was held in the Y. M. C. A. building, Kokomo, May 19. Election of officers resulted as follows: President, Dr. Edgar Cox, Kokomo; first vice-president, W. J. Fernald, Frankfort; second vice-president, K. C. Hershey, Carmel; secretary-treasurer, Paul J. Barcus, Crawfordsville; assistant secretary-treasurer, G. T. Williams, Crawfordsville.

At 1:30 p. m. Dr. John L. Puckett, Mayor of Kokomo, delivered an address of welcome, which was responded to by President Dr. A. S. Dickey, of Tipton.

Dr. George F. Beasley, of Lafayette, read a paper on "The Contract Doctor." Discussion by Drs. J. W. Wright, of Kokomo, and J. H. Ford, of Indianapolis, Dr. A. W. Gifford, of Tipton, read a paper on "Importance of Early Diagnosis in Urinary Diseases." Discussed by Drs. F. S. Crockett, of Lafayette, H. H. Thompson, Noblesville, and G. D. Marshall, of Kokomo, Dr. J. C. Burkle, of New Ross, read a paper on "Poliomyelitis." Discussion by Drs. G. D. Marshall, of Kokomo, and J. P. Simonds, of Indianapolis. Dr. E. E. Wishard, of Noblesville, read a paper on "Common Causes and Treatment of Difficult Labor." Discussion by Dr. Beasley. Dr. J. W. Hadley, of Frankfort, read a paper on "Reflex Neuroses." Discussion by Drs. F. C. Heath, A. C. Kimberlin and Theodore Potter, of Indianapolis. Dr. La Marr Knepple, of Kokomo, read a paper on "Salpingitis." Discussion by Dr. W. H. Williams, of Lebanon.

At 6 o'clock a banquet was held. Dr. Geo. F. Beasley, of Lafayette, was toastmaster. The following toasts were responded to: "Good Fellowship," Dr. H. H. Thompson, Noblesville; "The Doctor in Politics," Dr. Milton F. McCarty, Frankfort; "Life's Afternoon," Dr. M. V. B. Newcomer, Tipton; "What of the Future?" Dr. W. H. Williams, Lebanon; and "The Humorous Side of Our Profession," Dr. Paul J. Barcus, Crawfordsville.

The 1912 meeting will be held at Frankfort.

Adjourned. Paul J. Barcus, Secretary.

ELEVENTH DISTRICT

The eighth meeting and banquet of the Eleventh District Medical Society was held at Logansport, May 25. The forenoon session was held at Longcliff, where clinical cases were presented by Drs. Hoffman, Palmer and Yule. The ladies were shown around the grounds and hospital. At 12 o'clock the doctors and their wives were served with a luncheon in the administration building.

In the afternoon the ladies were entertained at the home of Mrs. F. A. Busjahn, while the scientific session was in progress. The following program was given: President's address, Dr. H. M. Hall, Camden; "Urinary Disorders of Old Men," Dr. C. G. Eckhart, Marion; discussion, Dr. C. E. Angel, Delphi; "Clinical Diagnosis of Incipient Tuberculosis," F. H. Robinson, Delphi; discussion, V. V. Cameron; "Anterior Poliomyelitis," Dr. G. D. Balsbaugh, Huntington; discussion, Dr. C. S. Black, Warren; "Review of Literature on '606'," Dr. D. C. Ridenour, Peru; discussion, Dr. Clark Rogers, Logansport.

At 6 o'clock a banquet was given. Toastmaster, Dr. F. Terflinger, Longcliff. The following toasts were responded to: "Who's Who and Why," Dr. J. L. Gilbert, Logansport; "May Belles," Dr. E. H. Griswold, Peru; "Ribbons for the Typewriter," Dr. Minetta C. Flynn Jordan, Wabash; "Weather Reports and Forecasts," Dr. Geo. W. Daniels, Sweetser; "The Call of the Wild," Dr. J. M. Hicks, Huntington.

Adjourned. J. L. Gilbert, Secretary.

ALLEN COUNTY

Fort Wayne Medical Society

Meeting of February 28

Society met in regular session at St. Joseph Hospital, with twenty-seven members present. Program of evening in charge of Drs. Bulson and Rosenthal.

Dr. Bulson presented a patient who had been operated for a spindle-cell sarcoma of the orbit. The tumor involved the bony orbital ridge and extended downward to the sphenomaxillary fissure. There was also slight involvement of the soft tissues of the orbit on the temporal side. The eyeball was not affected except by proptosis, and the vision was normal. Complete exenteration of the orbit was done, including thorough curettment and scraping of the bone and the removal of all macroscopically diseased tissue. Subsequent to the operation patient was given *x*-ray treatment and injections of Coley's fluid. Healing was uneventful, and Dr. Bulson said that aside from a little puffiness of the orbital tissues under the skin flap, thought to be due to the injection of Coley's fluid, the patient seemed to be making a good recovery, with no recurrence of the growth. Microscopic sections showed that the growth was a spindle-cell sarcoma, and Dr. Bulson stated that he thought the chances of recovery were greater than would be the case if the growth were of almost any other variety of sarcoma. He said he was forced to abandon his original idea of operating by means of the Kronlein flap and removing the growth without disturbing the eyeball. Owing to the extent of the diseased tissue it was impossible to remove all of what could be seen to be diseased tissue without disturbing the function of the eyeball, and evisceration was therefore thought justifiable.

The second case exhibited by Dr. Bulson was a woman 62 years of age, for whom he had done an iridectomy for acute glaucoma two years previously. One eye had been completely lost several years before from the effects of acute glaucoma and the vision in the remaining eye had been reduced to shadow, from the effects of the same disease that had destroyed the fellow eye. The iridectomy resulted in restoration of vision of 20/40 and ability to read ordinary newspaper type readily with the correcting lenses. Nearly two years later the patient returned with a well developed senile cataract which within a few weeks had caused practical blindness. The extraction was uneventful, but a secondary cataract made it necessary to do a discission which was performed four weeks after the cataract extraction with result of securing distance vision of 20/50 and reading vision of newspaper type with the correcting lenses. Dr. Bulson stated that in the original glaucoma operation a posterior sclerotomy had been done prior to the performance of the iridectomy.

In opening the discussion, Dr. Weaver said that his experience with Coley's fluid has not been large. Coley reports fifty-two cases treated in this way in which he had good results in twenty cases. Has lately been combining *x*-ray with Coley's fluid in the treatment of these cases. The reaction in these cases is of value —temperature 102 in therapeutic reaction. In prophylactic treatment we aim to miss this reaction. Someone observed that a man with sarcoma developed an erysipelas which seemed to cure his sarcoma, which led to the use of the streptococcus of erysipelas in the treatment of sarcoma. So far as *x*-ray treatment of sarcoma of muscles and bones is concerned, has been disappointed in its use, though it seems the only thing to offer these cases.

Dr. McCaskey asked Dr. Weaver what the pathology of the reaction is in these cases: (Answer, The toxemia. He uses Coley's serum in 1/6 m. doses. Gave ¼ m. yesterday, and had a reaction follow its use. Coley's fluid is unfiltered cultures of the streptococcus of erysipelas and prodigiosus. Does not think that injections in this case have anything to do with pouting of the skin flap; thinks it is granulation tissue.)

Dr. E. J. McOscar said the first experience he had with Coley's fluid was in a case of large hard sarcoma at angle of jaw. One feature about the use of Coley's fluid, a man using it should develop a tolerance to its use. He has given 7 m. with violent reaction. Doses should be large and given regularly.

Dr. Weaver said he has carried the dosage to 14 m. in one case. The serum is put up in ampoules.

Dr. Porter said he had first used the fluid several years ago. Does not think it is a toxin. Initial dose should be small. Fluid should be kept cold, as it spoils at ordinary temperature. Has given at least 100 injections. Does not believe that with aseptic technic it produces suppuration. If the fluid were prone to produce suppuration, we would have more reports of suppuration following its use. Has seen one cure (symptomatic) which seemed perfect and lasted four years. Patient finally succumbed to recurrence. The cures when obtained are just as apt to be temporary as those so-called cures following excision. Complete removal of osseous tissue is all that is necessary in bone sarcoma. Complete excision is all that is necessary, depending on the variety of growth. He thinks it is a fact that there is spontaneous cure of both carcinoma and sarcoma.

Dr. Rhamy said he believes what Dr. Porter said about sarcoma in general holds good, but does not believe it could be said about sarcoma of the periosteum. Thinks Coley's fluid is a mixture of streptococcus of erysipelas and prodigiosus. Thinks prodigiosus controls growth of the streptococcus.

Dr. Rosenthal said that result was not good in injecting sarcoma of bladder. Most of the cases relieved, in the opinion of Senn, are granulomata. Coley's serum is a toxin; we would not dare to inject live streptococci into the body. Sarcoma is so infiltrating that to remove all surrounding tissue is good practice.

Dr. Porter thinks the sacrifice of a limb for ordinary bone sarcoma is bad practice.

Dr. Bulson said he thought it would be bad surgery to operate a sarcoma of the orbit and leave the eyeball. Originally this man had a primary union of the wound. Since the second injection of Coley's fluid has noted some pouching of skin flap. Looks as if there was some connection between the injection of the fluid and the production of this pouching.

Dr. Rosenthal: Case 1. He has made it a practice in all wounds of the feet to make free incision, establish drainage and give an injection of antitetanic serum. In a case of recent date, a compound fracture of the tibia, infection produced gas in the tissues and caused distention. Gave patient 4,000 units of antitoxin on fourth day. It became necessary to amputate after forty-eight hours. Amputation through middle of thigh in healthy tissue. Culture showed infection of *Aërogenes capsulatus*. Recovery.

Case 2. Report of a Cesarean section done two weeks ago. Followed modified technic in this case,

Pelvic measurements: inter spinus 25 cm., crests 29 cm., conjugate 10 cm., conjugata vera 25 cm. General contracted pelvis. Labor thirty-six hours, membranes not ruptured; head not engaged. Made incision just opposite umbilicus, 2½ inches above and below. Opened uterus in upper segment. Delivered child without delivering uterus. Good recovery. Advantages of this operation are, the uterus thinned in lower segment; subsequent pregnancy favors danger of ruptured uterus; uterus sinks away from abdominal incision; avoids adhesions; avoids volvulus from adhesions; danger of hernia at site of operation lessened.

Case 3. Peritonitis: ruptured appendix. Boy, 15 years of age. Abdomen distended; spitting up rusty colored sputum. Temperature normal on admission. Continued his expectoration for five days, bowels moved regularly. Was given a cathartic; developed severe pain following. Was given an enema; pain increased following it. Taken to operating room and showed obstruction. Operation revealed volvulus involving two or three feet of small bowel, notwithstanding that he was still draining. Promptly released adhesions. Did not find it necessary to do resection. Stitched over peritoneum on bowel causing infolding of bowel. Case made good recovery.

Case 4. Woman brought into hospital for breast amputation for cancer. Had already had one breast removed. Case presented axillary gland involvement. Has recurrence of growth in scar of first operation. First amputation made three years ago. Six months later the second operation was made. *X*-ray treatment advised. There is a difference in the malignancy of carcinoma. In this case the original growth was of slow growth, movable, and the axillary glands were not palpable through the skin. The growth on the opposite side was markedly malignant. Sends all cases of cancer of breast to *x*-ray room within twenty-four hours, then daily for three days.

Case 5. Reported case history of case of bowel obstruction from cancer with "lump" in breast at time of operation. Found on opening abdomen that growth was extensive, and no attempt was made to remove the growth. Patient now has a very malignant breast. Cancer in upper segment of breast likely to be more malignant than those in lower segment, and there is less involvement of axillary glands.

Case 6. Papillomata of ovary; showing operation for papillomata and puncture wound for tapping. Has not a single (discoverable) metastatic growth outside of abdomen. These cases should be operated early.

Demonstration of Dr. Allen's (Indianapolis, Ind.) fracture splint. Dr. Chas. G. Beall presented a specimen of liver showing metastasis of mycosis fungoides. Case will be reported in detail later.

Dr. McCaskey commended Dr. Rosenthal's method of treating injuries (street) by injections of antitetanic serum. Believes that it is absolutely useless to use this serum after the toxin of the tetanus has reached the spinal cells. One can absolutely prevent tetanus if serum is used early.

Dr. C. B. Stemen said that experience in handling 15,000 injured men in which only one case of tetanus developed, by incising punctured wounds, washing out well with bichlorid or carbolic water, and then wiping them out with pure carbolic acid and inserting a drain of catgut or horsehair, seems to establish the fact that cleanliness is the most important factor in prevention of tetanus. Has never used tetanus antitoxin. Would certainly trephine the skull in case of tetanus. Has seen the operation done on horses and mules and they were cured.

Dr. Hamilton said that in a long series of cases reported where the wound was incised and cleaned and a dose of serum used as a prophylactic measure not a single case of tetanus developed. In those cases in which it was not used, tetanus developed.

Dr. Weaver said that it makes some difference where injury is received. Dr. Stemen's cases occurred on railroad right-of-ways. Cases would be less likely to develop tetanus from injuries received here than on a public highway where horses travel.

Adjourned. G. Van Sweringen, Secretary.

The Sisters of the Hospital served a luncheon after the meeting which was greatly enjoyed by all present.

CARROLL COUNTY

The Carroll County Medical Society met at Camden, May 12, with nineteen members present. Dr. Chas. H. McCully, of Logansport, was a visitor.

Dr. S. O. Duncan, of Ockley, was admitted to membership in the society.

Dr. C. E. Scholl read an excellent paper on "The Insanity of Epilepsy." Dr. Scholl contended that all cases of epilepsy became insane, and that they were more dangerous than any other forms of insanity. Dr. C. M. Kennedy read a paper on "Acute Anterior Poliomyelitis." Discussion opened by Dr. McCully.

Adjourned. W. R. Quick, Secretary.

HUNTINGTON COUNTY

The Huntington County Medical Society met at Huntington May 3. Dr. John S. Sprowl, of Warren, read a very interesting paper on "Locomotor Ataxia." Dr. R. F. Frost opened the discussion, bringing out more fully the basis of treatment and the results to be expected from drugs, electricity and training of muscles.

Dr. F. B. Morgan read a paper on "Food Intoxication in Children," emphasizing the fact that this condition results from improper diet of the child, and of the mother if child is nursing, and that relapses occur because of the eagerness of the mother to begin feeding too early. Dr. O. A. Nelson discussed the subject, saying that the condition most often resulted from poverty, ignorance and neglect. Treatment suggested was elimination and careful dieting.

Dr. Poinier, of Andrews, reported the principal prevailing disease to be measles, complicated with otitis media, especially in children; 50 per cent. of children having measles also suffered from this complication.

The society extended Dr. J. P. Simonds, of the State Laboratory of Hygiene, an invitation to speak at the next regular meeting, June 7.

Adjourned. R. Q. Taviner, Secretary.

KOSCIUSKO COUNTY

The Kosciusko County Medical Society met in regular session May 31. Dr. J. H. Sowers, North Webster, was elected a member of the society. Dr. C. E. Barnett, of Fort Wayne, read a paper entitled, "Surgical Aspect of Urogenital Infections, with Especial Reference to Kidney Tuberculosis." Discussion by Drs. Anglin, Murphy, Cary, DuBois and Yocum. A unanimous vote of thanks was tendered by the society to Dr. Barnett.

Dr. C. N. Howard gave the monthly "Reports from Current Magazines."

Dr. L. W. Ford read a paper on "Infantile Paralysis."

Adjourned. C. Norman Howard, Secretary.

MARION COUNTY

Indianapolis Medical Society

Meeting of April 18

Society called to order by president, with forty-eight members present. In absence of secretary, Dr. R. H. Ritter, Dr. McKinstray was requested to act in his place.

The paper of the evening, "Tuberculin Diagnosis," was read by Dr. Theodore Potter. The essayist said he had followed and used the tuberculin tests and treatment almost ever since their advent in the discoveries of Koch in 1890. All the modern specific methods of diagnosis and treatment have come, directly or indirectly, out of the work of Koch. Dr. Potter has used the various methods of tuberculin diagnosis, old and new, in about 500 cases in private practice, in 130 of which the eye test was used. In a number all the tests have been tried on the same patient. General results have been about the same as those of other observers. He presented the following conclusions regarding the tuberculin diagnosis:

(1) The tuberculin reactions, old and new, are real advances in pathology and constitute real additions to our knowledge of tuberculosis and its diagnosis.

(2) They are both probably specific, in the sense that only those will react in characteristic manner, who have at some time been infected with tubercle bacilli.

(3) It is at least doubtful whether other diseases than tuberculosis will, *per se*, react to tuberculin.

(4) All the tuberculin tests are most likely to be positive in the presence of active tuberculosis, but positive reactions from all of them may result from latent or encapsulated, or healed lesions.

(5) All therefore have the defect of being too delicate and of proving too much for clinical purposes, and are therefore not to be depended upon alone for the diagnosis of clinical tuberculosis.

(6) In children this defect is not as significant as in adults because latent and healed tuberculosis is not so common in children. The younger the child the more nearly does this rule hold. Therefore in general, the tuberculin tests are of more significance in children than in adults.

(7) All tuberculin reactions may be feeble or entirely negative in very acute and very advanced and moribund cases, and in the presence of acute infections such as measles.

(8) A positive conjunctival reaction probably has some special significance in indicating an active lesion, especially if very weak solutions are used.

(9) The hypodermic test is probably still the most reliable and most valuable one. It retains the available advantages of greater variability and accuracy of dosage, and of producing focal reactions when desired. The latter are invaluable in limited numbers of cases.

(10) All the tuberculin tests, discriminatingly applied, are practically harmless; yet the hypodermic and eye tests have possibilities of dangers which are not to be ignored. The skin tests are absolutely harmless.

(11) Persistently negative reactions, with the exceptions already noted, are of greatest clinical significance. Positive reactions are always to be interpreted in the light of other diagnostic factors.

(12) Finally, we must remind ourselves that under the spell of specific agents and the splendid contributions of the clinical laboratory, we are all a little too prone to seek short cuts in diagnosis. He who relies upon the tuberculin tests alone as final in clinical diagnosis, will be misled and disappointed. He who uses them with intelligent discrimination will, I am persuaded, find them not without real clinical value.

In the discussion, Dr. McDonald said that tuberculin diagnosis is not a short cut. The clinical evidences of tuberculosis are the safest, since an old healed tubercular focus may react to the tuberculin and unnecessary alarm result. Focal reaction afford valuable facilities for clinical study. The von Pirquet cutaneous reaction is the most valuable. He has abandoned the Calmette as useless.

Dr. Keene said that all tuberculin reactions depend on the same principle. The hypodermic method was the original method, and is the most definite, but is dangerous. The von Pirquet cutaneous reaction is sensitive and valuable. Dr. Keene described the method of production of Koch's old tuberculin, and the method of applying the von Pirquet test. The Moro test is useless and the Calmette dangerous. The von Pirquet fills all requirements.

Dr. Dodds said that his enthusiasm concerning the tuberculin reactions has moderated. The tuberculin reactions are specific. The hypodermic use is dangerous and as small a dose as 2 mg. may cause death. The von Pirquet is valuable from a laboratory standpoint. History and clinical evidence are most important. Tuberculin should be used for diagnostic purposes only as a last resort and then the von Pirquet method should be employed.

Dr. Pantzer reported a case in which the absorption of an exudate was coincident with reaction and advanced the idea that the absorption of a tuberculin exudate in one locality might promote healing in another.

Dr. Burkhardt said the Moro test was formerly used, but has been abandoned since it came in general disfavor. His personal experience has been favorable to the use of the test. The disfavor has resulted from slight reactions being considered positive. A case was reported in which a positive Moro created a great deal of alarm in a case where it was thought there was a tubercular process. Later developments showed that there was an active tuberculosis.

In closing Dr. Potter said that all tests are fundamentally the same. In a large majority of cases the diagnosis can be made clinically; in other cases the reaction from one of the tests will be the only method which will allow the positive diagnosis to be made. In certain other cases the focal reaction is very valuable for clinical reasons. No test should be considered independent of clinical findings.

Adjourned. H. R. McKinstray, Sec. pro tem.

Meeting of April 25

Society called to order by president, with fifty-four members present. Secretary being absent on account of illness, Dr. McKinstray was elected by vote of society to act as secretary during his absence.

The application of Dr. J. P. Christie was read the first time. Attention of society was called to the Indianapolis Health Tour Company. No action was taken.

Dr. Heath, president of the State Association, made some general remarks concerning the plans for the next annual session.

Dr. A. M. Cole gave a lantern exhibition of *x*-ray skiagrams and colored photographs in skin diseases. Discussion by Drs. H. H. Weer, A. W. Brayton, F. R. Charlton, F. C. Heath, Sowder, and closed by Dr. Cole.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of May 2

Meeting called to order by vice-president Dr. Jobes. Report of council recommending election of Drs. Ross C. Ottinger, John Leas, Chas. McNaull, Robert Repass, Thos. L. Sullivan, Homer L. Fulenwider, J. H. Eberwein, John F. McCool, Geo. R. Hays and Edward C. Helwig, was accepted.

The contemplated change in street car service from the City Hospital was discussed, and the following resolution adopted by the society:

Resolved, That it be the sense of the Indianapolis Medical Society that the street car tracks be left as they are at present, or extended directly down Indiana Avenue from Illinois Street.

Secretary read a letter addressed to president referring to railroad facilities from Indianapolis to Los Angeles on account of meeting of American Medical Association. No action was taken.

Dr. W. H. Foreman reported two cases, (1) Typhoid Fever in a baby three months old, and (2) Lobar Pneumonia in a baby three months old. Dr. Foreman drew the following conclusions:

1. There is no reason why children under one year should not have typhoid fever except lessened exposure. The fact that it is not more frequent may be only apparently so, because the disease is not recognized, being mistaken for other conditions.

2. Typhoid fever is not recognized in infants for two reasons: (a) Typhoid fever in infants rarely furnishes the clinical picture seen in adults. (b) Intestinal lesions formerly regarded as pathognomonic are usually wanting or greatly modified.

3. Our modern specific means of diagnosis, viz.: Diazo and Widal reactions, and blood examinations enable us to recognize typhoid in infants where before it has been unrecognized, even in post mortems because of the absence of pathologic lesions in the bowel.

The specific case was typical only in duration and fever, the symptoms being more those of a continued enterocolitis. Widal was positive in the third week.

Concerning lobar pneumonias in children, Dr. Foreman said that only 15 per cent. of the cases occur in children under one year. Lobar pneumonia at three months is very rare. With reference to the location of the lesion in the lung, it is most frequently found in the left base, second, the right apex, third the right base, and fourth the left apex. The onset of the case was sudden with high fever from the beginning. Lesion located in right apex, and physical signs and symptoms fairly distinct. Child seen about four hours after onset. Treatment consisted in proper attention to bowel, room temperature, ventilation, nursing, clothing, quiet and special symptoms, as fever, cough, sleep, etc., 200,000,000 dead streptococci were administered subcutaneously at 12:30 a. m., and a similar dose at 9 a. m. of the same day. No systematic reaction. Temperature declined by lysis and disappeared in less than thirty-six hours. All other physical signs and symptoms similarly declined and disappeared. On third day from onset child again had rise of temperature with cough and physical signs; 100,000,000 dead streptococci were administered and symptoms promptly subsided.

Dr. Wm. F. Shimer reported case of anti-typhoid fever inoculation. Patient, female, aged 27, weight 130 pounds; health good; no history of typhoid fever. March 30, 1911, 7:30 p. m., received under left scapula a 14-hour slant agar streak growth of typhoid bacilli in physiological salt solution previously heated one hour in a water bath at 60 degrees C. Some pain during night and sleeplessness.

Temperatures from typhoid vaccination:

March 31, 1911, Temp. 10 a. m., 100 F.
March 31, 1911, Temp. 1 p. m., 101 F.
March 31, 1911, Temp., 2 p. m., 101.3 F.
March 31, 1911, Temp., 4 p. m., 100 F.
March 31, 1911, Temp., 7 p. m., 100.4 F.

On March 31 there was headache, anorexia and some diarrhea. April 1, appetite good. She felt as well or better than before vaccination. Blood taken before inoculation showed some tendency to agglutinate typhoid bacilli.

April 1, 1911, very slight agglutination.
April 2, 1911, very slight agglutination.
April 3, 1911, very slight agglutination.
April 4, 1911, very slight agglutination.
April 5, 1911, very slight agglutination.
April 6, 1911, some agglutination.
April 7, 1911, considerable agglutination (dilution 1-100).
April 8, 1911, dilution 1-400.

The macroscopic Widal was used. For this purpose a 20-hour undiluted broth culture of typhoid bacilli was used.

Anti-typhoid vaccination is the easiest, best and most scientific means to prevent typhoid fever. Anti-typhoid vaccination with public and private hygienic measures will do as much to eliminate typhoid fever as vaccination has done to eliminate small-pox.

Dr. Theodore Potter read two papers, "Triumph of Psycho-Therapy," and "A Bit of Indiana Medical History." Dr. Hugo Pantzer read a paper on "Acute Intestinal Obstruction from Carcinoma of the Colon."

Dr. T. V. Keene reported a case of rabies. Patient, a boy affected by the so-called dumb type; lived eleven days. Diagnosis confirmed by inoculation of guinea-pig. He reported in connection with Dr. Potter's paper a case of pulmonary tuberculosis which improved under active treatment. The credit was claimed by a Christian Science practitioner who had been giving patient absent treatment.

In discussion of Dr. Foreman's paper, he said that the use of the bacterin in a single case was not evidence of its usefulness. Pneumonia ends in very irregular ways, and one case is not sufficient evidence.

Dr. G. B. Jackson reported case of lobar pneumonia in a child of six months. Beginning symptoms were those of a gastro-enteritis, chest symptoms developing later. Treatment consisted in fresh air, diet and laxatives. Recovery took place on fifth day by crisis. Dr. Jackson thinks best treatment for pneumonia is symptomatic.

Dr. C. F. Neu discussed Dr. Keene's report of rabies, and differential diagnosis of tetanus. He said that

physicians are often not careful enough in studying what appears to be a trifling matter. Reported a case of carcinoma which had been treated for neurasthenia.

Dr. Freeland said that the City Hospital was the only hospital in Indianapolis that would accept the case of rabies reported by Dr. Keene. No difficulty was experienced in caring for the case.

The society voted to continue their meetings through June, making one of the meetings a social affair.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of May 9

Meeting called to order by Vice-President Dr. Jones. Minutes of previous meeting read and approved. The following applications were read the first time: Drs. E. W. Gayer, R. G. Kemper, Charles A. Carter, J. F. Potts, F. W. Mayer, H. I. Jones, G. W. Lee, W. C. Heskett, Ira H. Jordan, and J. P. Christie. The following applications were read the second time: S. J. Copeland, Ord Everman, and D. S. Adams.

Drs. F. B. Wynn, Alfred Henry and R. S. Chappell, were appointed a committee to arrange for a social meeting of the society during June.

The office of secretary-treasurer being vacant through the death of Dr. R. H. Ritter, the vice-president was instructed to cast the unanimous vote of the society for Dr. H. R. McKinstray to serve the unexpired term of Dr. Ritter.

The paper of the evening was read by Dr. J. F. Barnhill, entitled "Conservation of the Hearing."

Dr. J. J. Kyle, in opening the discussion, made a plea for early recognition of the potent factors in the etiology of deafness, the most prolific cause being tonsils and adenoids. Deafness is usually progressive. Hypertrophied tonsils and adenoids have a tendency to produce deafness. It is claimed that such growths undergo atrophy, but in our environment there is a tendency to repeated inflammatory attacks of progressive growth. Adenoids are easily removed in infancy. In older patients the adhesions require radical operations. No doubt inflammatory troubles in the upper respiratory tract predispose to infantile paralysis, meningitis and other infectious diseases. The establishment of nasal breathing and a healthy nose and throat is a preventive measure. There are some types of inherited deafness. If the deafness is detected early treatment may produce a cure, but in old cases treatment is of no avail. If the deafness is caused by active inflammatory trouble treatment is beneficial.

Dr. E. DeW. Wales said that the specialist as well as the general practitioner is at fault in not recognizing beginning deafness earlier. Too radical treatment of specialist often does harm, and he often fails to give a definite idea to the general practitioner as to methods of recognizing beginning deafness. Occasionally adenoids are merely obstructions and not a danger to the hearing.

Dr. Tomlin said that Helen Keller claims loss of hearing is greater than loss of sight. Life Insurance companies consider an impairment of hearing to affect a risk in a more unfavorable way than an impairment of sight. If cases of deafness cannot be cured they can usually be arrested.

Dr. P. B. Coble called attention to the fact that deafness can often be prevented by the proper treatment of acute otitis media, and early paracentesis should be done.

Dr. Barnhill in closing said that the chief thing he intended to call attention to was the conservation of normal hearing and prevention of any degree of deafness. Proper treatment will prevent any deafness except the inherited type. Improperly or untreated cases repeatedly reach the stage where a cure is not possible.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of May 16

Meeting called to order by president of Council, Dr. E. DeW. Wales. Minutes of last meeting read and approved.

The paper of the evening was entitled "Involvement of the Central Nervous System in States of Severe Anemia," by Dr. C. F. Neu. He stated that impairment of the quantity or quality of the blood results in molecular changes in the cell in proportion to the rapidity and degree of that impairment. Coincident with these changes, alterations in function are manifested, and these manifestations can be determined more clearly in involvement of the nervous system than in almost any other part of the human economy. But even here one often encounters an entire absence of relationship between clinical symptoms presented and pathological changes found at autopsy, which may be due to different degrees of impairment of structure and function, to the action of different injurious agencies in body fluids, or to both. Regardless of this, all these cases bear a certain stamp of similarity which should direct attention to the blood state. Cases illustrative of two main types were presented: namely, spastic and ataxic in character, but between the two typical types, every imaginable gradation may be found, or variable combination of the more typical groups. Various disturbances of the nervous system may be classified under more or less definite functional groups: Motor disturbances, sensory disturbances, reflex disturbances, vaso-motor, secretory and trophic disturbances, organic disturbances, and mental disturbances. The motor disturbances are mostly weakness and fatigue. There may be twitchings, spasms, contractures or paralysis. Sensory disturbances are mostly subjective in character and consist of various paresthesias mostly in limbs, but may involve almost any part of the body. Objectively there is rarely complete loss of sensation. They are characterized by being more or less patchy in distribution. Special senses as a rule show but little impairment. The condition of reflexes depend upon the degree of change in nervous system. They may be absent, normal or exaggerated. The organic reflexes are rarely involved. Vasomotor, secretory and trophic disturbances are slight if any. Mental symptoms are more those of irritability, at times also torpor or confusion of the mental faculties or even definite psychosis. It is not always possible to say to what extent manifestations are result of involvement of nervous system directly, or indirectly the result of disturbances of metabolism. The exact nature of the diseased condition is undetermined. Pathological changes found suggest a powerful toxin causing hemolysis. Pathological changes in the nervous system involve mostly the white tracts of spinal cord, particularly the posterior and lateral columns. Diagnosis is made from blood state in combination with clinical manifestations and must be made from locomotor ataxia, Freidrich's ataxia, amyotrophic lateral sclerosis and spinal syphilis. Prognosis is bad so far as cure is concerned. Death usually result of septic cystitis, renal disease, pneumonia or complication. Treatment in the main is general and symptomatic. Some form of arsenical preparation most frequently used. At times iron and strychnia are good. Spinal conditions require special treatment.

Dr. A. E. Sterne said that nervous symptoms are always present in severe anemia due to organic dis-

turbances of cord. It is a question whether the blood disease or nervous disease is primary. Treatment not satisfactory. Three cases cited which did remarkably well on raw bone-marrow. Extra nutrition might have caused the improvement without any special good effect from the bone-marrow. Amebiosis and pernicious anemia are often associated. Colon irrigations have been beneficial in such cases.

Dr. A. B. Graham described the Crofton treatment for pernicious anemia which consists of a proteid diet with large doses of concentrated hydrochloric acid. Thyroid, gastric juice and sodium cacodylate are given daily with the other treatment. Crofton believes that atrophic gastritis is the forerunner of pernicious anemia. Dr. Graham insisted that chemical examinations of the stomach contents should be more frequently made. He reported two cases of atrophic gastritis which developed pernicious anemia. Five cases of pernicious anemia treated by the Crofton method were mentioned. In some cases the benefit was quite marked. He believes the arsenic a part of the treatment. In beginning anemias the attention is not usually directed to the stomach, since the motor power of the stomach is usually increased and there are no symptoms. Atrophic gastritis is always present in pernicious anemia, and Dr. Graham believes it to be a forerunner.

Dr. Chas. Sowder said that pernicious anemia is remittent and the efficiency of any treatment is hard to determine. Various treatments advocated as specific have repeatedly failed. The proper treatment for pernicious anemia remains to be determined. His experience has been that the cases improved under various forms of treatment, suffered from a remittence of symptoms, and died in spite of any treatment.

Dr. Neu, in closing, said that the nervous symptoms occur early in the severe anemias and do not run parallel with the blood state, and secondary anemia may cause nerve symptoms that are quite severe. Any malignancy or toxemia is the cause of the nerve symptoms. The parasthesias of concealed malignancies may be due to either toxic or metabolic causes. Peripheral lesions may occur without a central lesion.

Adjourned. Homer R. McKinstray, Secretary.

MARSHALL COUNTY

The Marshall County Medical Society met at the office of Dr. Stephens, Peru, May 25. Owing to difficulty in arranging a program the annual meeting was postponed and a regular meeting held. Each doctor related some case in his experience, which made a very interesting meeting.

Drs. Radcliffe and Jeffries, of Bourbon, and Dr. Tallman, of Culver, were elected to membership in the society.

Since reorganization of the society meetings have been well attended and much interest manifested.

Adjourned. J. W. Eidson, Secretary.

NOBLE COUNTY

The Noble County Medical Society met in regular session at Albion May 16. The application of Dr. D. M. Johnston, of Kendallville was received and referred to the board of censors. Dr. W. F. Carver was elected delegate to the State Medical Association, and Dr. W. T. Green alternate. The following officers for the year 1911-1912 were elected: President, Dr. Fred R. Clapp, Ligonier; vice-president, Dr. J. H. Nye, Cromwell; secretary-treasurer, Dr. W. F. Carver, Albion; censors, Drs. J. W. Luckey, Wolf Lake, F. W. Black, Ligonier, and Carlos Lane, Kimmel.

After dinner the scientific program was taken up. A symposium on syphilis was first, Dr. J. L. Gilbert, of Kendallville, giving an historical sketch of the disease, tracing the evolution of the treatment. Dr. B. W. Rhamy, of Fort Wayne, presented the subject, "Salvarsan," giving history of thirteen cases treated and technic of administration. Dr. G. W. McCaskey, of Fort Wayne, gave a splendid lecture on "Syphilis of the Nervous System," and in the discussion Dr. M. I. Rosenthal, of Fort Wayne, brought out the surgical aspects of syphilis. The program closed with a very interesting paper by Dr. M. I. Rosenthal entitled, "Obstruction of the Bowel Due to Malignant Disease." The paper was profusely illustrated by drawings and photographs.

On motion Dr. Rhamy's paper on "Salvarsan" was referred to the program committee of the Indiana State Medical Association.

Adjourned. W. F. Carver, Secretary.

PIKE COUNTY

The March meeting was called to order by President Abbott. Dr. Abbott presented a very instructive paper on "Obstetrics and Forceps Delivery." General discussion. Attendance large.

Adjourned. E. S. Imel, Secretary.

The May meeting was called to order by President Abbott. Dr. T. W. Basinger read a very able paper on "Tuberculosis," in which he emphasized the climate treatment, together with outdoor life and sunlight.

Adjourned. E. S. Imel, Secretary.

ST. JOSEPH COUNTY

Meeting of May 8

Society met in regular session May 8. Minutes of previous meeting read and approved. Dr. Lent reported case of acute retropharyngeal abscess in child of one year; central form. At first patient presented an acute follicular tonsillitis, and in terminal stage began to have difficulty in breathing, this symptom becoming pronounced, and marked at time of examination. When erect the breathing was improved. Inspection of throat disclosed a globular mass, bluish-red in color, just showing above the glottis. Chloroform was given, the child inverted, and the abscess incised with scissors, about one ounce of thick yellow pus being evacuated. None got into larynx, and child made good recovery.

There are two forms of these abscesses, acute and chronic. The acute occurs at the ages of one to three years, and is either central or lateral, and due to infection of lymphatics. In adults it is most often lateral and is a simple cellulitis. Most authorities advise holding child over shoulder and there opening abscess. This was thought to be bad practice, because pus has no chance to get out and little patient dies from suffocation. Dr. Hager reported two similar cases, both with recovery. He said that this condition rarely if ever follows quinsy.

Dr. Bosenbury reported case of child one week old. Birth normal. Week later child had general rash, consisting of minute pustules surrounded by an areola, each lesion being about the size of a dime. No other symptoms, and recovery followed in few days, leaving

skin in normal condition. What was it? Drs. Dean and Wegner reported similar cases, followed by death.

Dr. Montgomery reported case of Polish woman, age 48 years; fourteen children; weighs 240 pounds. Had a miscarriage at two months. Temperature 101; pulse 125; chills, abdomen soft, lochial discharge moderate, odorless. At times patient felt fine. For several days alternated between chills, sweats, temperature 103, pulse 130, and a normal condition. Curettage, followed by injection of 20 c.c. antistreptococcic serum. Patient in fine condition, due in all probability to the serum. Dr. Myers said in his opinion cases acted just like this one without use of serum.

Dr. Terry removed an enormous cyst and fibroid. At end of week a tumor mass the size of an egg developed in line of sutures. It was opened and twelve ounces of urine flowed out. By use of cystoscope both ureters were found working, but there was an inflamed area on one side of bladder. Catheter placed in bladder and allowed to remain one week. Complete recovery.

Case presenting severe pain in right lower quadrant with all symptoms of appendicitis; symptoms subsided. Few days later temperature 104, chills, sweats, and severe pain. Tumor mass under right costal arch in region of gall-bladder. On operation normal appendix was removed. Gall-bladder incision disclosed what was thought to be gall-bladder. It was stitched to abdomen and a large amount of pus drained out, followed by urine. Later closed and recovery was uneventful.

Dr. Wegner read a paper on "Temperature."

Discussion by Drs. Bosenbury, Montgomery, Myers, Lent, Terry and Shanklin.

Adjourned. R. C. Shanklin, Secretary.

Meeting of May 15

Society met in regular session May 15, with President Bosenbury in the chair.

Dr. Montgomery reported a fatal result of his case of post-partum infection, report of which was given at last meeting. Dr. Berteling reported the following case: Man, aged 66, with strangulated hernia of 24 hours' duration. Operation with recovery. Another case, woman, aged 66, sick two days; symptoms of intestinal obstruction. Abdomen opened, intestine punctured; obstruction found in right side due to a hernia. Hernia reduced and case doing well.

Dr. Hager reported case of retropharyngeal abscess in child. Operation with recovery. Dr. Montgomery continued the subject of "Temperature." Discussion by Drs. Bosenbury, Mitchell, Kilmer, Wegner, Dean and Berteling. Closed by Dr. Montgomery.

In view of the fact that Dr. Green has recently been bereaved in the loss of his wife, the committee on Necrology was instructed to write a memorial to Dr. Green.

The committee appointed to interview the Mayor reported that the Mayor will use his influence in the suppression of the use of firearms and fireworks on the Fourth of July.

Adjourned. H. T. Mitchell, Sec. Pro. Tem.

Meeting of May 22

Society met in regular session with thirteen members present. Minutes of previous meeting read and approved.

Dr. Mitchell presented case of tumor of upper lip with a fungus growth on inside of mouth.

Dr. Wegner read a very exhaustive paper on "The Treatment of Heart Disease." Discussion by Drs. Hager, Miller, Bosenbury, Eastman, and closed by Dr. Wegner.

Dr. Bosenbury discussed the subject of "Quacks." Dr. Eastman reported further on the subject of "Illegal Practitioners."

Adjourned. H. T. Mitchell, Sec. Pro. Tem.

Meeting of May 29

Society met in regular session May 29 with fifteen members present. Minutes of previous meeting read and approved.

Dr. Mitchell reported case of woman, age 54, 5 ft. 5 in. high; weight 200 pounds. Has had rheumatism for past five years. At time of examination had typical attack with involvement of shoulder, wrist, ankle, and knee, with high temperature and delirium. Under anti-rheumatic treatment improved rapidly and for five days was normal, when symptoms returned and in addition veins of right leg became distended and black, the leg rapidly becoming gangrenous, with fatal result. Was the phlebitis the same infection as in the typical attack of rheumatism? Urine showed albumin and granular casts. Dr. Hansel asked if it is not possible to have a phlebitis following rheumatism as well as other infections.

Dr. Berteling said last fall he was called to see a woman said to be a helpless, hopeless invalid. She was anemic, unable to talk, walk or make any voluntary movements. Did not answer when spoken to. Physical examination negative. Taken to hospital and by suggestion, and with no medical treatment, improved rapidly, and at present time is in good physical and mental condition. Dr. Mitchell said it is just such cases that add to the Christian Science forces.

Dr. Berteling talked on the subject of "Quarantine," and asked for suggestions from the society. Motion carried that five weeks be the minimum time of quarantine for scarlet fever, dating from time of eruption, with an additional two weeks of exclusion from schools following ending of quarantine; that the minimum quarantine for diphtheria be fourteen days, with an additional week of exclusion from schools; that measles be quarantined for two weeks (amended to read that patient be quarantined two weeks) with an additional two weeks of exclusion from schools following end of quarantine; and that all children having whooping-cough be excluded from schools as long as whoop is present, mumps for two weeks, and chicken-pox until all scabs and scales have disappeared.

Dr. Miller reported that case of spina bifida, reported one month ago, has ended fatally.

Adjourned. R. C. Shanklin, Secretary.

BOOK REVIEWS

Veterinary Anatomy. By Septimus Sisson, S.B., V.S., Professor of Comparative Anatomy, Ohio State University, College of Veterinary Medicine. Octavo of 826 pages, 528 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $7.00 net; Half Morocco, $8.50 net.

The lack of a comprehensive treatise on the structure of the principal domestic animals seems to have been felt by the students of veterinary science for a long time. So that this excellent work of Dr. Sisson's, beautifully illustrated as it is, and dealing with the gross anatomy of the horse, ox, pig and dog, should meet with a hearty welcome from the veterinary profession. Important structures are named in black type and an effort has been made to reduce the chaotic anatomic nomenclature of veterinary science of the past to a more uniform state

The horse has been taken as the subject for the most detailed study and variations in the other animals are noted.

As above stated the illustrations are both profuse and excellent, and the work is a distinct credit both to the author and publishers.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minnesota, 1905-1909. Octavo of 668 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth $5.50 net.

Not only is the profession indebted to the members of the staff at the Mayo clinic for their many valuable contributions to current literature, but now again for having brought together in indexed form a collection of what must be the very best of their productions and placed it in the most convenient form for reference. True though it be that these papers have all been published heretofore and many reprints made therefrom, yet there doubtless remain many thousands of the profession who are not the fortunate possessors of such reprints and yet would like to preserve for reference the immense amount of data upon which these papers have been constructed. Furthermore the detailed index at the end of the book enhances very materially the value of the work for ready reference.

It would be an endless task to attempt to enumerate the many interesting and important points individualized by the authors of the papers here offered. The wide experience of William Mayo on surgery of the stomach and gall-bladder and his more recent excellent work on duodenal ulcer have added not a little to the interest and import of the section on the "Alimentary Canal." The last chapter in that section, viz.: "Acquired Diverticulitis of the Large Intestine," deals with a condition but infrequently recognized in previous years and will doubtless aid in no small measure in placing the condition among the group of distinct clinical possibilities in the left lower abdominal quadrant.

Throughout the series there is evidence of the masterhand of the Mayo pathologist, Wilson, and those papers dealing with goiter owe a large part of their interest to his excellent work.

One of the most pleasing features of the contributions from these men is the terseness and directness with which their subject is treated. No space is afforded to long, drawn-out dissertations dealing with old-established facts, and the reader is spared the tiresome perusal of tedious treatises based largely upon hypothetical grounds. Everything is fresh, concise, yet modest withal.

We would bespeak for this creditable publication a hearty response at the hands of the general profession, for it is of vital interest to the internist as well as the surgeon.

Differential Diagnosis. Presented through an Analysis of 383 cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 753 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

The unique plan upon which this book has been built appeals at once to every student of medicine as the most interesting as well as forceful method of impressing facts, that could be conceived of. The wonder is that no one had ever thought of putting such data in book form for publication before, because when one stops to consider the method of attack as commonly practiced by all careful clinicians, he realizes at once that Dr. Cabot's idea of working inward and backward from the presenting symptom, vague though it may be, is the universally efficient one.

The plan of work consists of three parts: (1) A presentation of the common causes of the most frequently complained-of symptoms; (2) A classification of these causes in their order of frequency, as nearly as practicable; and (3) Illustrations by case histories in which the lead of the presenting symptom has been followed through to the solution of the diagnosis. So that the aim of the author is not so much an effort to impress the significance of a single symptom or finding as to teach logical medical thinking based upon the composite picture offered by all the data of the individual case at hand.

In going through the work one finds himself so interested in the problems offered and the mode of solution that he is loathe to lay it aside.

One addition might be suggested, viz.: no mention is made of acquired diverticulitis as a cause of left iliac pain. This condition has now become a sufficiently recognized clinical entity to merit a place in that section of Cabot's work which deals with pain in the left iliac region.

Poisoning from Bite of Spider.—S. Mazza of Buenos Aires has made a special study of the nervous and cutaneous manifestations of poisoning from the bite of spiders or arachnoidism, and in the *Semana Medica* (1911, xviii, 641), reports a case in which there were eruption and desquamation resembling that of scarlet fever. The syndrome was differentiated principally by the necrotic lesion at the point of the bite and the intense pain that accompanied it. In some points the syndrome resembled malignant pustule, while the hemorrhagic jaundice and prostration in some cases suggested yellow fever at first. There was no epistaxis or hematuria in his last case, as in infectious purpura, and the spleen was not enlarged, while there was a 3 per cent. eosinophilia. The patient was a boy of 10 who had had scarlet fever some years before. Pino's patient was a man and besides the eruption, fever and vomiting there were also hematuria and jaundice. Both patients recovered. The case reported here with numerous illustrations is Mazza's fourth case of severe arachnoidism.—*Jour. A. M. A.*

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ORIGINAL ARTICLES

REPORT ON CASES TREATED BY "606"

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INDIANAPOLIS

With a flood of literature in the medical press concerning the Ehrlich-Hata remedy, the writer feels like offering an apology for presenting the following case reports. The excuse for presenting them is to be found in the courtesy of the Rockefeller Institute. In October Professor Flexner placed in my hands several doses of the remedy with the request that it be used in public hospitals where laboratory determinations and careful observations could be made.

Cases were selected with considerable care, in order to secure wide range of clinical manifestation. Indebtedness is acknowledged to Dr. A. W. Brayton for counsel in the selection of cases from his clinical service in the hospital; to Drs. J. P. Simonds and John R. Thrasher for laboratory diagnosis, and to Dr. Noguchi of the Rockefeller Institute, who has made corroborative tests; to Drs. Fred R. Charlton, Bernard Erdman and W. P. Garshwiler for diagnostic and other cooperation; and to J. R. Francis for assistance from the pharmaceutic standpoint.

In compliance with the request of Professor Ehrlich through the Rockefeller Institute, only the faintly alkaline solution has been employed—prepared and administered by the method of Lesser in all except one case (No. 7), to whom an intravenous injection was given. The most rigid rules of sterilization were applied both to fluids and utensils. Patients were kept in bed from three to seven days. Careful investigation was made in each case for eye conditions, heart, renal or other disease which would contra-indicate the use of "606."

CASE 1.—*Maculo-papular syphilide, secondary stage, in pregnant woman. First patient treated with "606" in Indiana.*

W. P., a girl of 18; the victim of illegitimate pregnancy; was infected with syphilis in June, 1910, about two months after conception. At the time of her admission to the Indianapolis City Hospital in November, a fading maculo-papular eruption was visible over the forehead and trunk, a short course of mercury having been given. Mucous plaques were present in the mouth; and the patient had a very profuse purulent leukorrhea. The most conspicuous lesions were very large, moist condylomata near the anus and between the labia majora (Fig. 1). The lesions were covered by an abundant grayish-white exudate. Coverslip preparations showed spirochetes, and they were also readily demonstrable by dark-field illumination. The Wassermann reaction was positive.

Fig. 1.—Maculo-papular syphilide with large moist papules about the anus and vulva.

November 16, 1910. Injection into the gluteal regions of 0.5 gm. of arsenobenzol, alkaline solu-

tion, by the method of Lesser. Considerable burning was complained of at the site of injection, and pains radiated down the legs, requiring in five hours one-sixth grain of morphin, which gave almost complete relief.

November 17. Passed a fairly comfortable night. Pain gone, except tenderness at seat of injection. Spirochetes could not be found to-day in the exudate from the moist papules. Temperature normal.

November 18. The exudate over the moist papules has become dry and the burning sensation in the lesions two days ago has ceased. The profuse leukorrheal discharge has likewise almost disappeared. Temperature, 99 F.

November 21. Mucous patches in mouth healed; moist papules have become covered by intact epithelium; lemon sized areas in buttocks tender. Temperature, normal.

November 30. The large condylomata about buttocks have undergone absorption, but considerable pigmentation remains. Wassermann positive.

January 20, 1911. Negative Wassermann.

The Baby.—On Jan. 15, 1911, the child was born at full term, and in good condition. In gratitude for the benefit received from the remedy the mother named her baby Paul Ehrlich. Dr. A. W. Brayton and the writer have watched the little one with intense interest for the possible development of luetic lesions. Soon after birth a punctate, pustular eruption appeared on the body, but yielded readily to catharsis and local measures. Two weeks later a diffuse erythema developed, but vanished quickly. No lesions of the skin or mucous membranes have appeared which we considered luetic. Wassermann determinations on February 10 and March 1, however, give positive reactions in the baby and faintly positive in the mother.

Comment.—The outcome in the mother is highly satisfactory, but not entirely so in the baby. Our observations do not corroborate fully those of some others, viz., that the administration of arsenobenzol to the pregnant woman affords complete protection to the offspring. That it has inhibited the activity of the syphilitic process is indicated by the absence of clinical evidence of syphilis in the baby, but the very positive Wassermann points to probable latent disease.

Case 2.—*Generalized Small Papular Syphilide. Secondary Stage* (Fig. 2).

Mrs. A. S., aged 28; mother of two children. Scrofulous for three years of her girlhood. About Oct. 1, 1910, she developed severe and persistent headache, worse at night; two weeks later a papular eruption appeared, first on the forehead, then on palms and back, ultimately covering the entire body. The lesions varied from a shot to a pea in size, some of them pustular. There was a large mucous patch in the roof of the mouth. Laboratory examination gave a very positive Wassermann reaction and spirochetes in abundance.

Nov. 30, 1910. Injected 0.6 gm. arsenobenzol by the Lesser method, at 9 a. m. Pain, which was at first in the iliac and thigh regions, became general by 6 p. m., especially severe in the joints, requiring morphia, ¼ gr., at 9 o'clock and midnight. From that time on pain was not a disagreeable symptom, except slight local tenderness. Six hours after the injection the lesions became more prominent and the skin intervening a bright scarlet—the Herxheimer reaction. Temperature 101 F.

Fig. 2.—Small papular syphilide.

December 1. Aching and soreness of the joints diminishing; some headache; skin still very red. Temperature, 101 F.

December 2. Lesions less prominent and general redness of skin disappearing, but over the infiltrated areas of injection there is a livid color suggesting the possibility of septic infection. Temperature, 99.5 F.

December 3. Patient comfortable; general redness gone; also the livid hyperemia over injected areas, which are still tender to pressure. Temperature normal; negative Wassermann.

December 16. The eruption has disappeared, but some pigmentation remains at the site of larger lesions. Still a walnut sized lump in one buttock. Negative Wassermann. Discharged from hospital.

Comment.—The result in this case was highly satisfactory, but the rapidity of improvement was no more marked than I have occasionally seen after the administration of mercury by inunction or hypodermatic injection.

Case 3. *Syphilitic Rupia* (Fig. 3).

C. W., aged, 35, single; served four years in the United States Navy; has been a heavy drinker. Twelve years ago he had chancre, followed by indolent buboes, loss of hair and rash. During the past six months he has suffered from severe and persistent headache, worse at night; also persistent lesions on the legs and arms, varying in size from a dime to a half dollar. He took iodids four months ago without benefit. The Wassermann was positive.

Jan. 15, 1911. Injection by Lesser method. The patient being a very large, muscular person, it was thought advisable to give a large dose of the remedy—something over 0.7 gm., requiring the breaking to two capsules. Two hypodermic injections of morphia were necessary to relieve the pain, which was of a general aching character.

January 16. General aching gone, but complains of some burning sensation in the lesions, which are more prominent than before the injection.

January 18. Complains of some pain in the back; skin over infiltrated areas in buttocks purplish, as in Case 2. Lesions improving.

Temperature.—First day, 101 F.; second day, 100 F.; third day, 99.5 F.; fourth day, normal.

February 1. The lesions have healed, but extensive areas of dark pigmentation remain; a lemon-sized mass of induration persists in one buttock. Wassermann faintly positive.

February 15. Wassermann negative.

Case 4.—*Gumma Involving Soft Palate, Pharynx and Larynx.*

G. P., colored; aged about 40; gives a clear history of chancre and secondary manifestations in 1906. Treatment taken was very indifferent. About four months ago his throat became very sore, and continued to grow worse. In January, when first seen at the Bobbs Dispensary, his voice was raucous; the tissues of the neck were swollen, and swallowing painful. An examination of the throat by Dr. L. F. Page revealed a gumma which involved the larynx, pillars of the fauces, pharynx and had destroyed the soft palate. A whitish, milk-like exudation covered the exulcerated parts, while the periphery was red and nodular. A Wassermann test gave a strongly positive reaction.

February 1. The patient was given 0.6 gm. arsenobenzol by the Lesser method; suffered general pains, especially in the legs and ankles. A quarter grain of morphia gave relief and patient was quite comfortable in twelve hours.

February 3. Is free from soreness and pain in the joints to-day for the first time. Throat feels and looks better. Exudate diminished.

Temperature.—First day, 100 F.; second, 100; third, 99.

Fig. 3.—Tertiary syphilide. Rupial lesions.

February 10. Swelling in the neck gone; patient swallows with ease; voice much improved. Inspection of throat shows rapid healing.

February 19. Complete healing of lesions, with remarkably smooth scar formation.

March 4. Wassermann negative.

Comment.—While I have seen in tertiary lesions very marvelous effects from the action of

iodids. I have never seen a result equal this in the rapidity and completeness of healing.

CASE 5.—*Syphilitic Meningomyelitis with Paraplegia.*

For the very interesting and complete clinical history of this case I am indebted to Dr. O. A. Caldwell, whose patient he was.

O. F., aged 27, locomotive engineer. Initial sore appeared in March, 1910, followed in a few weeks by a generalized papular eruption, marked indolent adenitis, oral lesions, loss of hair and severe headache.

Treatment was begun by inunction, and later mercuric salicylate injections were given. The patient did well till July, when he lost flesh and became anemic. On July 24 he came complaining of listlessness and staggering gait, accompanied by girdle pain at the level of the seventh dorsal. When seen the following day, there was complete paralysis from this point down, with incontinence of urine. Respiration was hurried; patellar reflexes absent. During the succeeding five weeks he suffered from an alarming cystitis, incontinence of the bowels, and extensive atrophic bed-sores. Under salicylate of mercury injections and iodids, he made decided improvement. Patellar reflexes gradually returned, becoming in time much heightened. By October sensation and motion were restored so that he could walk, but the gait was distinctly spastic.

About November 1 he developed tinnitus aurium, followed by almost complete deafness of left ear, diagnosed as cochlear hemorrhage by Dr. J. J. Kyle.

Dec. 22, 1910. Wassermann positive at this time. Patient's symptoms have not changed in six weeks; spastic gait, deafness in left ear, and partial incontinence of urine the dominant symptoms. No organic condition to contra-indicate use of "606."

December 31. An injection of 0.6 gm. arsenobenzol given by Lesser method. Besides local pain and burning in region of injection, there developed in twelve hours considerable aching of the knees, ankles and elbows. Quarter grain morphia given with beneficial effect.

Jan. 1, 1911. Condition of bowels and bladder much aggravated. Incontinence of feces and urine; general aching of the body, but not so severe as to require morphia.

January 3. Tenderness and aching of joints have subsided. Temperature to-day, 99 F., and for the three preceding days, average 100 F. Fecal and urinary incontinence very annoying.

January 6. Patient has regained control of bowel sphincters, but the urine continues to dribble.

January 15. The patient has made no improvement in the past ten days.

March 10. Wassermann faintly positive and indicates that a second injection should be made or at least mercury given. During the past month the patient has slowly improved. Has complete control of bladder and bowels, walks without cane, but is still spastic, and the probabilities are that he will continue so.

Comment.—While the patient has made decided improvement and will probably gain still further, it does not seem likely that he will recover entirely. That a specific process involved the cord and perhaps its membranes is clearly indicated by the reaction which followed the injection, viz., the aggravated bowel and bladder symptoms. Very likely some tract degeneration has occurred which will make impossible complete restoration of function. Had "606" been administered early after the myelitis appeared, it is probable that complete recovery would have taken place.

CASE 6.—*Tertiary Tubercular Syphilide. Treatment Complicated by Delirium Tremens.*

E. W., aged 32; clear history of genital chancre eight years ago, followed by glandular enlargement, macular eruption and persistent and recurrent sore mouth. Received a careful course of mercurial treatment. From the time of infection he has been very apprehensive about himself. For two years past his morbid fears have unfitted him for work and developed the typical picture of profound syphilophobia. He has lost in weight, has marked tremor, cold hands and feet, and suffers from extreme insomnia. The latter condition has led to the rather free use of hypnotics and sedatives; and whisky has sometimes been taken for its quieting effects two or three times daily. When first seen by the writer he had beside the nervous picture described a serpiginous eruption extending over the glans and dorsum of the penis and onto the scrotum. Wassermann determination was positive.

Feb. 8, 1911. Injection of 0.6 gm. of arsenobenzol, alkalin solution, into the gluteal regions. For some time there was twitching of the muscles of the thighs and legs. During the first six hours vomited several times; the pain was relieved by one-fourth grain morphia.

February 9. Passed fairly good day, except some local pain and restless state of anxiety.

February 11. Very nervous. Face very red; temperature normal, but pulse ranging from 88 to 100; manifests delusions of suspicion; insists that father has been killed in a train wreck; has also hallucination of hearing and sight; fancies he hears a band playing and tries to catch imaginary mice on the floor and bed; so restless and apprehensive that mechanical restraint was necessary for eight hours; tremor of the hands and tongue quite marked; refused food. First chloral, then morphia was given; the latter with decided benefit in quieting him.

February 12. Slightly less demonstrative than yesterday; otherwise unchanged.

February 13. Slept well and has taken rations with relish. Symptoms abating.

February 15. Flushing of face and tremor almost gone; patient coming to himself; is hopeful and conscious that he has been suffering from delusions and hallucinations; some tenderness at site of injections; lesions on penis disappearing.

February 20. Some pigmentation only remaining to mark location of lesions. Patient's psychic and nervous state apparently normal. The transformation from syphilophobia to a cheerful and hopeful mental attitude has been more remarkable than the local improvement of lesions. Wassermann negative.

Comment.—What occasioned the acute maniacal outbreak? Clinically it corresponded to acute alcoholism, but there had not been the alcoholic debauch. It certainly was toxemic. Contributing to it were the moderate alcoholic ingestion, the endotoxins from spirochete destruction, and the arsenical preparation.

In this connection reference should be made to a case of tabes dorsalis to whom the treatment was given. He had suffered at intervals of several months from terrific gastric crises, lasting from three to ten days, accompanied by pain and persistent retching. From the injection by the Lesser method of "606" into the gluteal masses, he suffered none, but a severe gastric crisis was provoked in ten hours which lasted three days. The pain and vomiting were extreme and his depression alarming. He rallied nicely, however, in five days.

Case 7.—*Secondary Papular Syphilide Treated by the Intravenous Method.*

W. S., aged 21, colored. This patient presented himself at the Bobbs Dispensary, February 24, for "lumps about the neck and breaking out over the body." The eruption was of the small papular type, and except for the absence of constitutional symptoms, might have been mistaken for a mild case of small-pox. An insignificant primary lesion was found on the penis. Had considerable sore throat; mucous patches on the soft palate and left tonsil. A Wassermann examination gave a positive reaction.

March 2, 1911. Injected by the intravenous method 0.6 gm. arsenobenzol. At the first introduction some of the fluid was evidently escaping about the needle, into the tissues. It was therefore withdrawn and introduced into another vein with entirely satisfactory results. The patient complained for some time of slight chilliness and a faint feeling.

March 4. Only complaints are of sweating and tenderness about the bend of the elbow where fluid escaped from vein. Temperature was 99.2 F., first day; 99.1 F. the second, and normal to-day. Throat feels much better.

March 10. The throat is entirely well and the eruption has almost entirely disappeared. The only complaint of the patient is of tenderness and stiffness in the arm, where the fluid escaped into the tissues. The infiltration is rather dense and extends 3 inches above the bend of the arm along the inner aspect of the biceps. It does not appear to be a true phlebitis, but is a tissue infiltration similar to what occurs from injections of arsenobenzol into the gluteal muscles.

March 16. Wassermann faintly positive.

Comment.—This case is included in the series chiefly because of the mishap detailed above.

CONCLUSION

A larger number of cases might have been included in this report. The above, however, give a fair idea of my experience with the remedy.

It would be presumptuous to draw any generalized conclusions concerning the action of arsenobenzol from so few cases. They do show, however, that while as a rule, remarkable effects may be expected from the remedy, the "606" road is not always smooth and sometimes leads to disappointment and failure. How completely and permanently destructive of the syphilitic organism the agent is, much greater time will be necessary to prove. It does not seem at all likely that "606" will supersede mercury and iodin, but that the latter should be used synergistically. In the attack on syphilis, let arsenobenzol constitute the heavy artillery, with mercury and iodin as the lighter forces — all working together in bringing about the conquest of the enemy.

311 Newton Claypool Bldg.

IMPORTANCE OF EARLY RECOGNITION OF INTERNAL EAR INVOLVEMENT IN ACUTE INFECTIOUS DISEASES

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Several cases of profound ear involvement in the course of acute infectious diseases that have come under my care have made me think that this subject is of sufficient importance to warrant the presentation of the matter to this society for further discussion and study.

Of greatest moment to the patient is the recognition of internal ear or nerve diseases coming on in the course of the general infection. This for several reasons: they are seldom accompanied by pain and therefore may escape detection; they are, if untreated, prone to produce partial or complete deafness, and, lastly, because if detected

and cared for in their incipiency, are often amenable to treatment, which is not the case should degeneration of the nerve or end-organs occur from pressure or continued inflammation. Moreover, these profound cases of nerve deafness often result, not from serious infections, but from the very cases on which little attention is bestowed by doctor or parents.

Of the milder diseases thus complicated, acute parotitis stands out as the most frequent and is almost invariably localized in the labyrinthine structures.

Of the graver forms of infection, epidemic cerebrospinal meningitis involves the cochlea and semicirculars *primarily,* while in measles, scarlet fever, diphtheria, influenza, etc., extension to the ear structures is common, but *first* reaches the middle ear and but seldom extends from it to the perceiving apparatus. Occasionally, however, labyrinthine trouble does occur as an initial auditory complication in these latter diseases.

It is easily understood in epidemic meningitis how infection occurs, namely, by continuity of structures involved, the lymph-channels being freely present between meninges and cochlea. In the other diseases mentioned it is most probable that the pathologic conditions are set up by either the toxins or, in some cases, the presence of the germs themselves in the internal ear, these gaining access by means of the blood-current.

The changes range from the slightest exudate to a purulent and destructive inflammation involving not only the soft tissues, but the bony walls as well.

That one may early recognize these changes it should be the routine practice of the attending physician to instruct the parents or nurse to watch for symptoms and test daily the hearing by such means as will bring out evidence of the perverted function of these perceiving elements. These precautions are especially to be observed in early childhood, as this age neither observe for themselves nor give voluntary evidence. Total deafness in infancy or up to the age of 6 years will result in mutism.

The symptoms usually come on without pain and consist of moderate deafness, sometimes increasing to almost total absence of response to sounds. This deafness is peculiar in that lower tones are heard well, while higher pitched ones are not received. The voice of a man may be heard easily, but the tick of a watch, even when held close to the ear, is unheard. General conversation is confusing to the patient, whereas he might easily hear a single person speaking. Ofttimes the patient will complain of head noises, which may be misinterpreted as the result of heavy quinin or other medication. Examination of the middle ear with a negative finding in the presence of these symptoms, should immediately be the signal for a thorough functional examination of the internal ear.

In the severer forms, vertigo, vomiting, extreme tinnitus and prostration occur, and these I have seen in a simple case of infectious parotitis. It is this disease that I wish most to bring to your attention. I have no doubt but that every physician here has had one or more cases of mumps in which the patient, doctor or parent has been surprised to find a complete or partial deafness of one or both ears following an otherwise uneventful case of parotitis. If these complications are recognized early after their onset, the outlook is not at all hopeless for a lessening, if not a complete cure of the deafness.

If the general condition of the patient will permit, free local blood-letting over the mastoid process as well as free catharsis should be brought about as soon as the diagnosis is made. This should be followed by the hypodermic use of pilocarpin in increasing dose, fortified later by full doses of strychnin. Functional rest of the ear should be obtained by the use of cotton wool in the external canals. With this treatment instituted early, the milder cases will, in a large percentage of the cases, recover and the graver ones so held in check that improvement of hearing can later be accomplished by persistent retraining of the ear by the speaking tube, phonograph, etc.

Should delay in instituting treatment occur until pressure or toxic products have blotted out the delicate end-organs in the ear, cure is beyond hope of accomplishment, and the unfortunate patient goes on through life handicapped by his condition, or even made to lead a life shut out from the world of sound, condemned to choose his associates from the school for mutes.

The points that I especially wish to adduce are: to recognize the complication early, and to institute treatment within twelve to twenty hours of its onset, that no more of these cases become deaf than are absolutely unavoidable.

416 Upper First Street.

VACCINE THERAPY: A REVIEW OF THE PRINCIPLES AND PRACTICE OF IMMUNO-THERAPY *

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Immuno-therapy stands to-day in the foremost rank of our therapeutic agents. The principles on which it is based are as firmly established

* Read before the Northern Tri-State Medical Association, Toledo, Ohio, June 6, 1911.

and its laws as fixed as any other set of principles in medicine, or any other science.

Immunity is that condition by virtue of which an individual exhibits more or less complete resistance to an infection, for which other individuals show a greater or less degree of susceptibility.

It is well known among the common people that one attack of certain of our infectious diseases brings about some kind of a change in the patient's tissues which protects him against further attacks of the same disease.

Susceptibility to certain diseases and infections often runs in families, e. g., nephritis, gout, insanity, carcinoma, tuberculosis, etc., while some families possess an unusual resistance to them. In a given family, however, there are often marked variations in susceptibility and resistance. One child may contract measles, while his room-mate may escape it. Moreover, the same individual varies greatly in his resistance at different times and under different conditions, hence, individual resistance or individual susceptibility is a matter of considerable importance.

Immunity which results from an infection depends on a specific reaction on the part of the tissue cells in response to the chemical injury produced by the bacteria or their toxins, as indicated, first, in the recovery of the patient, second, in the new antitoxic and antibacterial power demonstrable in the blood; for instance, the agglutinating power of the serum of a recent typhoid.

Immunity may be absolute, but is usually only relative; and different conditions may be made to prevail which render infection possible; for example, a large number of bacteria will cause an infection where a smaller number fails to do so. There may also be a temporary decrease in one's resistence through overwork, hunger, exposure, etc.

From the study of infectious diseases, we have found that when the body is invaded by a specific organism, the tissues adapt themselves to this new condition by the formation of substances called antibodies, whose purpose is to protect the body from the toxic invading material by neutralizing the toxins and destroying and dissolving the bacteria themselves. These substances are, according to their individual specific actions, known as follows: antitoxins, lysins, opsonins, agglutinins, etc.

The antitoxins, like diphtheria antitoxin, when injected into the system produce a passive immunity by virtue of the added antibodies, while the injections of bacterial bodies themselves, stimulate the *body tissues* to manufacture the various antibodies, and *in this way* tend to establish a state of active immunity. When living or dead bacteria are introduced into the blood-stream the lytic forces of the serum attack and dissolve the bacterial bodies. The poisonous end-products from the dissolution of these bacteria are known as endotoxins. In the presence then of a properly regulated dose of these endotoxins, the system immediately begins to adjust itself to this unnatural condition by elaborating an increased number of antibodies to counteract the poisons. This period is known as the reactive or negative phase. When the antibodies are actually in excess the so-called positive phase is present and lasts for from three or four days to two weeks, depending on the dose of bacterial bodies or vaccines, and the recuperative power of the patient. The size of the dose of dead bacteria and the interval between the injections is to be regulated, according to Wright, by opsonic index determination. When I first began making vaccines I insisted on using the opsonic index, but I am now firmly convinced that it is at least no better guide than the clinical symptoms, while Wright himself admits that opsonic index control is impractical for routine work. It is important then that both the dose and the interval between injections be regulated by careful observations of the clinical symptoms, and the essential point to be remembered is to begin with very small doses and increase to point of toleration with intervals between injections of at least three or four days; for, it is possible, by giving large doses close together to establish a continuous negative phase, which would be decidedly harmful: likewise, vaccines used as a last resort are apt to prove unsatisfactory both to patient and physician.

As Richardson (in the *Jour. A. M. A.*, Jan. 22, 1910) puts it: "Success in this method presupposes that the patient is not already overwhelmed with poison, the fundamental principle of vaccine therapy assuming that the body is capable of reacting to the stimulation and forming increased amounts of antibodies to inhibit the infection. Furthermore, if this procedure is to bring about, as it should, increased bacterial destruction with the setting free of an increased amount of endotoxin, then this destruction must not be too rapid or excessive, lest the efforts to cure do harm through hyperintoxication. Therefore, theoretically, the giving of vaccines to a patient, already overwhelmed by a generalized infection and whose antibody centers are paralyzed, cannot be expected to be favorable ones for vaccine treatment. Practical experience, how-

ever, has shown favorable results in the hands of good men by giving vaccines in small, frequently repeated doses, in more or less generalized sepsis, so that although the giving of vaccines as a last resort is not to be encouraged, they may be justifiable in some cases."

Some question has been raised as to the propriety of placing this treatment in the hands of the general practitioner. I believe that any intelligent physician can use the procedure, perhaps under the guidance of some one familiar with all its details, with a very fair degree of success, if he pay careful attention to all the details. He must not get overzealous in crowding the treatment, but must watch carefully the clinical symptoms for signs of overdosage as indicated by reactions and must thoroughly understand that the principle of treatment is to give small enough doses that perceptible reactions do not occur, and that the effects of an injection last for several days.

With proper attention to these details, experience will show that the treatment is of tremendous value in those cases in which the correct vaccine is used at the proper time.

Theoretically, the use of emulsions of "living bacteria" would be followed by results more favorable than with the killed cultures, but practically it is obvious that they would be entirely too dangerous for use.

It must be clearly understood and recognized by the general profession that to get the best results from vaccine treatment, bacteriologic diagnosis must be resorted to early. In the case of a local infection, cultures of pus and inflammatory secretions and in more general sepsis, early blood-cultures must be made. It is because many medical men usually fall back on vaccines as a last resort that their results are often disappointing.

Vaccines are designated, autogenous and stock, the autogenous being made from cultures taken from an individual case and the vaccine used only on that case. The stock vaccine is made from several strains of any species of organism and is to be used on any case having that particular infection.

While occasionally the use of a stock vaccine seems to effect a brilliant result, the burden of proof shows that the most successful results are obtained in those cases in which a scientifically prepared autogenous vaccine has been employed, even in cases where mixed organisms were present. However, stock vaccines should be used rather than none at all. It is, therefore, most important to determine exactly just what bacterium is the cause of any given infection, and if possible, to isolate this organism and make an autogenous vaccine. It is the height of bad practice to guess at the kind of infection and give a stock vaccine accordingly. For even though we know what the specific organism is, the stock vaccine might not contain the special strain of that particular bacterium, in which event it would be worthless, like the unreliable antistreptococcic serum.

As to the propriety of using a mixed vaccine, i. e., one containing more than one species of organism, it should be remembered that infections are quite often mixed. In such cases it is my opinion, after considerable experience, that when several pathogenic bacteria are present in an infected tissue or discharge, each showing active virulency, it is entirely proper to make a mixed vaccine of proportionately proper dosage just as it is proper to put two or more active drugs in a prescription; or if the dosage cannot be regulated correctly by this method, or if any particular strain of organism is the predominant feature, then make a vaccine of the predominating bacterium and add the others later if necessary.

In dealing with mixed infections, it is necessary to follow events in chronic cases by occasional bacteriological examination and to modify the vaccine from time to time to correspond with the changes of bacterial flora in the discharge.

In general, it may be said that in chronic and localized infections large doses with long intervals of six to fourteen days are the rule.

In more acute and more generalized infections, small doses and short intervals of two to four days are essential. Some difference of opinion exists as to the propriety of producing a reaction. My own experience, after observing both methods, has been that those cases in which a reaction was avoided gave the most satisfactory results. The tendency to-day is to increase the dosage and certainly it is good treatment to give as large a dose as possible provided a reaction is avoided. I can even see how at times a good strong reaction would stir things up with marked benefit, yet I would caution against this as a routine procedure, since in many cases there already exists a "toxin saturation" and one would only be pouring oil on the fire by giving large doses. One must also have a clear mental picture of the immunizing process in studying clinical results.

Just recently I prepared a vaccine for a case of pustular acne, and placed it in the hands of the family physician. After about two months interval the patient came to my office and reported that at first, after an injection, his face would clear up but would break out again about two

days before the next injection, and that the last two injections had made it worse. On inquiry, I found that the dose had been steadily increased so that the last doses which had an unsatisfactory result were excessive. Also it was quite evident that the original interval between doses was too long.

Abundant proof of the therapeutic value of bacterial vaccines can be easily found in the literature, the stamp of approval being given by such men as Adami, Rosenow, Deaver, Billings, Anders, Kerley, Allen, Hamilton and innumerable others of international reputation. Staphylococcus infections, including boils, carbuncles, acne, eczema, felon and osteomyelitis: colon-bacillus infections, especially of the urinary tract; typhoid, tubercle, pneumococcus, *Bacillus pyocyaneus,* streptococcus infections, including erysipelas, puerperal fever, endocarditis, gonococcus and in fact most bacterial infections have been found more or less responsive to the treatment.

The use of vaccines in gonorrhea is becoming recognized as being far more preferable to the "secondary-infection-producing, urethral injections," and furnishes a rational and efficient method of treatment, which is now being used extensively, especially in chronic gonorrheal infections.

The vaccine treatment of gonorrhea is, in my opinion, much more effective, especially in cases of long standing, than local treatment. Sometimes it produces rapid improvement, but it should be borne in mind by those undertaking this treatment that many cases require a prolonged course of inoculations. I have in mind a man who had a severe chronic gonorrhea of seventeen years duration, who tried every form of treatment he ever heard of from "Butte to Verumontanum." His urine was quite cloudy with pus and showed gonococci with secondary colon-bacillus infection. This case was cured by fourteen months treatment with vaccines.

The most effective dosage of vaccine varies for different cases and at different times for the same case, varying from 50 to 500 million, every fifth or sixth day. Doses up to 500 million may be used without causing any general reaction, except in rare cases.

Herbst (*Illinois Medical Journal*, June, 1909) reported prompt relief in twenty out of twenty-four cases of gonorrheal arthritis.

Hamilton (*Journal of the A. M. A.*, April 9, 1910) reported 344 cases of gonorrhea in children. Comparing results by vaccine treatment and by irrigation methods, he obtained 60 per cent. of cures by irrigation and 90 per cent. by vaccine treatment.

He favored the vaccine for the following reasons:

1. The short time required for a cure, the ease of administration of the vaccines, and the harmlessness of the vaccine when used under aseptic precautions.

2. It eliminates irrigations which direct the child's attention to its genitals, and encourages precocious masturbation. The frequent douches necessary in the irrigation treatment will, with the best care and gentleness produce some injury and secondary infection when continued over a long period of time.

In comparing the vaccine treatment to the irrigation method, there are several points to be noted:

1. Long continued irrigations often set up secondary infections.

2. Epididymitis, vesiculitis, prostatitis, etc., are not controlled by irrigation, while vaccines offer the best means to control these remote foci.

Within the last year, in my own laboratory, a new form of vaccine treatment has been evolved, applied especially to gonorrheal infections, but applicable to other infections. For the reason that the gonococcus is so hard to cultivate and isolate, especially in the presence of the usual mixed infection of chronic gonorrhea, and having in mind both the efficacy of the vaccine treatment and the practicability and favorable reports of the method of Hiss, Wilcox and Morgan of injecting sterile leukocyte emulsions, I conceived the idea of using the gonorrheal pus, which contains the bacteria, leukocytes, ferments, antibodies, toxins, etc.; sterilizing this material at 60 C., adding an antiseptic preservative and injecting in proper dilution under the name of "Autogenous Pus Emulsion." The dilution is made so that as a rule 1 c.c. or 16 drops contain 1,000,000 leukocytes and the proportion of the various species of bacteria present to the number of leukocytes estimated. Dr. C. E. Barnett has been using this method for sometime on his cases and prefers it to the culture vaccine. This method can be used whenever sufficient pus can be obtained. In acute cases we collect the pus when the discharge is profuse and begin using it after the acute stage is passed. Under this treatment I have observed some very satisfactory results, even in acute cases.

According to the conclusions of the Congress of American Physicians and Surgeons, in May, 1910, therapy with vaccines, especially the autogenous preparations, has been distinctly success-

ful against the staphylococcus and colon bacillus infections, and with the tuberculins. Success with the staphylococcus vaccines has been recorded not merely against the local infections, such as boils, but also against the severest manifestations, including blood infections, Deaver and DaCosta reporting that they had treated stapylococcus septicemia in all stages with most prompt and favorable results.

Colon-bacillus infections, especially of the urinary tract, have been eradicated with equally gratifying success. Finney and Mayo reported each a case of refractory colon-bacillus infection of bladder and kidney, which had yielded promptly to the appropriate vaccine; and McArthur mentioned several cases of essential renal hematuria that had been cured by colon vaccines.

The great value of the tuberculins is already generally recognized, and is applied to all chronic and localized forms of the disease. It offers a method of extreme value in tubercular infections of the genito-urinary tract. Considering the inaccessibility to treatment and the frequency of tubercular kidneys, the vaccine treatment is valuable, either alone or as an accessory to surgical measures. The vaccine treatment is now being used extensively in any sort of infection of the genito-urinary tract, which fails to clear up under antiseptics. This is especially true of colon-bacillus infections of the bladder and prostate, which amount to 50 per cent. of all bladder infections; the improvement often being striking and evidenced by quick relief from pain and frequent micturition.

Stone (in the *Journal of the A. M. A.*, Nov. 12, 1910) says so-called urinary and intestinal antiseptics have been found to be of little value in treatment of chronic typhoid infections and that autogenous vaccines offer our best chance of success, especially in typhoid carriers, who have only a partial immunity which can be made complete by the use of vaccines.

Wright showed a series of 8,600 typhoid cases inoculated with vaccine, having a mortality of 12 per cent., as against 41,000 cases not inoculated and having a mortality of 21 per cent.

Anders says that the value of vaccines in typhoid fever must be conceded:

1. As a means of prophylaxis.

2. During convalescence to prevent relapse.

3. To combat localized infections, like bone suppurations.

4. To remove the bacilli from urine and feces.

Antityphoid inoculation as a prophylactic measure is now a routine procedure in the regular armies of the Powers, and the statistics show a decrease of mortality of over one-half.

In the British army, of 5,473 soldiers vaccinated twenty-one subsequently had typhoid with two deaths. Of 6,610 not vaccinated, 187 had typhoid and twenty-six died.

In the German army the mortality of typhoid was 11.9 per cent. in unvaccinated and only 4 per cent. in vaccinated; unvaccinated cases showed 7 per cent, relapses and vaccinated showed 4 per cent. relapses.

Foster (in the *Journal of the A. M. A.*, Nov. 19, 1910) gives the method for antityphoid inoculation in the United States army. Vaccine preparation, 1 c.c. contains 1,000 million. Three injections for prophylaxis:

First of 500 million, second and third of 1,000 million each, with ten-day intervals.

Always a local, brawny induration and enlarged lymph-nodes, maybe some systemic reaction. One-seventh of the regular army now immune to typhoid by this procedure.

Christie (in the *Journal of the A. M. A.*, Feb. 26, 1910) reported eighteen cases of otitis media, acute and chronic, treated by combined vaccine and surgical treatment. Concluded that bacterial inoculation is a powerful agent for the cure of this disease. He cautions that having to deal often with long-existing localized inflammation of bone structure, it must not be forgotten that such sinuses are frequently more or less encapsulated by inflammatory fibrous tissues, that their blood-supply is poor, and that, in consequence, they are not so easily reached by remedies through the circulatory system. We have no right to expect vaccines to remove sequestra of bone, cholesteatomatous masses, nor areas of bone necrosis. These must be removed surgically and free drainage of sinus or abscess cavity afforded. The experience of general surgeons with stubborn abscesses and sinuses seems to indicate that the value of surgical measures may be greatly enhanced by the after-use of vaccines in all infected cases; in fact, that surgical treatment can often be saved from failure by the assistance of this additional therapy.

As regards streptococcus infections, Rosenow (in the *Journal of the A. M. A.* of Nov. 12, 1910) says the therapeutic value of vaccines can no longer be questioned in localized infections, but their effect in general infections, like endocarditis, is questionable.

Thompson (in *American Journal Medical Sciences,* 1909) reported three cures in seven cases of streptococcie endocarditis by this treatment. Most observers have noted good effects from small doses of 3,000,000 to 10,000,000 of dead streptococci.

Vaccine therapy, according to Kerley, has been used in children in doses of 5,000,000 to 50,000,000 with favorable results, especially in staphylococcus and colon-bacillus infections, cystitis in children being an especially favorable field. The streptococcus, as in adults, is the least responsive.

Duncan (in New York *Medical Journal,* Nov. 6, 1909) reported satisfactory results in fifty-eight cases of erysipelas. Just recently I was called on to prepare an emulsion from some cervical pus from a case of erysipelatous infection following labor. This emulsion was used immediately. Meanwhile cultures were grown and a vaccine prepared. A quick and satisfactory result was obtained. The attending nurse contracted the infection by means of a scratch on her arm and was treated by the same vaccine. She also recovered, but not as quickly as did the primary case under the pus emulsion. Another case of severe erysipelatous infection in a scalp wound, having a temperature of 103½, was given an autogenous pus emulsion and after the first dose the temperature dropped to normal, the infection quickly subsiding. Another promising field for vaccine treatment is in acute colds, results in some instances being most surprising, the colds disappearing in twenty-four to forty-eight hours.

In conclusion it must be remembered that bacterial vaccines are powerful agents, but not cure-alls, and if used intelligently can accomplish much good; on the other hand, if used recklessly, they can produce a vast amount of harm.

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ADDRESS TO GRADUATING CLASS OF THE INDIANAPOLIS CITY HOSPITAL TRAINING SCHOOL FOR NURSES *

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The invitation of the superintendent of this hospital to address you on this occasion was accompanied by a request that I should include some reference to the City Hospital as it was at the time I assumed the superintendency on July 1, 1879.

The location of the institution at that time was much more inaccessible than at present. There were no street cars in this part of the city, and there were no gas mains within several squares of the hospital. Electricity for lighting was not in general use. There were no water mains in this locality, and bathing facilities were exceedingly limited. The first night I slept in the hospital as superintendent a coal-oil lamp suspended in the hall adjoining my bed-room in the old brick administration building exploded, and a conflagration was narrowly averted. This incident was influential in securing the extension of gas mains to the institution. Water mains were too far away and the importance of an adequate water-supply too little appreciated by the city solons to make it possible to secure city water for two or three years after I assumed the superintendency. The late Mr. Thomas E. Chandler, then a member of the Board of Aldermen, was president of the hospital board. He was a thorough-going business man and deeply interested in the welfare of the hospital, and chiefly through his instrumentality it was decided to place a large tank on the fourth floor of the brick administration building and to install five or six small bath and toilet rooms in various parts of the hospital. The only water-supply was from a deep driven well and two or three cisterns. A large windmill was erected in connection with the driven well and water was thereby pumped to the tank on the fourth floor and distributed therefrom to the newly installed bath and toilet rooms. The physical condition of the institution was in other respects deplorable.

The basement and first floor of the old brick administration building afforded the living apartments and dining room and kitchen for the superintendent and house physicians. The two upper floors of this building were occupied by patients. The principal ward space, however, was in the old frame building which was a three-story structure with very low ceilings erected by

* Delivered May 12, 1911, at the City Hospital, Indianapolis.

the government during the Civil War as a temporary hospital for soldiers. The ventilation was poor, the floors were warped and uneven, and the roof leaked. Whenever a hard rain occurred it was customary for the nurse and convalescent patients on the third floor of this old building to move the beds of the very sick patients to dry places in the room and to place basins and other receptacles under the numerous points in the ceiling where the drip occurred. Snow blew in through the warped window casings and was often found on patients' beds. I remember going into the patients' kitchen one day during a brisk shower. It was a one-story frame building adjoining the larger frame building. Our cook, Perry Valentine, a venerable colored man, was busy preparing the patients' dinner. He had a large ladle in one hand with which he was turning some meat that was cooking on the kitchen range, and with the other hand he was holding a large umbrella over himself to keep the rain off.

Financial support for the City Hospital was grudgingly given, and my first efforts to elicit interest in the erection of a new hospital were greeted in some quarters by the remark that too much money was being spent on the institution already and it had better be abandoned. The total expenses of the institution for the year closing July 1, 1879, at which time I assumed the superintendency, were a little over $9,000. To appeals and persistent effort, however, a response was finally secured, and in the early part of the year 1884 Mr. William H. Morrison, a warm friend of the hospital and then a member of the City Council, aided me in securing a meeting of the mayor and other city officers together with a number of members of the staff for the consideration of the question of erecting new hospital buildings. Mayor D. W. Grubbs presided, and I shall never forget the inspiration produced by the persuasive argument of the late Dr. Thomas B. Harvey. Dr. John Chambers and Dr. Charles E. Wright were also present. Dr. Harvey gave a brief history of the hospital and spoke of the obligation of the city to maintain it. He related many incidents of personal sacrifice on the part of the members of the staff, and the expressions of relief from patients who had been treated in the institution. He spoke of the growth of the city and the increasing demands on the institution, and its utterly inadequate facilities. He was a man of magnificent presence to whom every one loved to listen. His arguments were convincing, and he secured the intense interest of all the little group present. His persuasive words and handsome, manly bearing so intensely engaged my friend Dr. Chambers, who was sitting by my side, that he grasped my arm and said excitedly in an undertone: "Thomas looks like a god." The generous support of the medical profession and the laity was sufficiently potent to secure an agreement to erect a frame addition on the east side of the buildings then standing, which addition was to cost $6,000, as provided in the estimate of the Finance Committee of the City Council. With this official sanction I did not have much difficulty in getting the hospital board to contract for a brick building instead of a frame at a cost of $12,000, instead of half that amount as had been decided. The contract was subject to the approval of the Council, which was ultimately secured. As the hospital board had left the plans entirely to the architect and myself, it required no especial argument to induce the architect to construct this new brick building in such a way that it could not be used to advantage without the erection of a second building. Within a few months the new building was completed and an ordinance presented to the Council for the erection of a second building at a cost of about $16,000. The first building had contained only ward space, and in the second or central building was included a general stairway, an elevator, and bath and toilet rooms on each floor, and a few other rooms. It seemed best to defer the arrangement for a dining-room, kitchen, laundry and heating apparatus until we could get a third building, and the argument was successfully presented that the first two buildings were part of a general plan but were not available for permanent use until the third building, costing $25,000, should be added, to which an additional sum of about $7,000 was secured for a heating plant, making the total expenditures a little more than $60,000.

I have briefly sketched the development of the hospital buildings erected during my administration, which began with the laying of the cornerstone of the new east wing on April 14, 1883. On the latter date, which initiated the modern development of the hospital, the ceremonies incident to laying the cornerstone were presided over by the late Mr. Peter F. Bryce, then president of the hospital board. The cornerstone was laid by Dr. John L. Dunlap. The principal address was delivered by Dr. John N. Kitchen. From Dr. Kitchen's address we learn that:

"Early in the year 1855, January or February, when the population did not exceed 12,000 souls, an epidemic of small-pox greatly alarmed the citizens and led to a discussion of the necessity for providing hospital accommodations; and as

a result in March, 1856, an ordinance passed the Council authorizing the construction of a building. A location was secured, and after many vexatious delays, the present brick structure was completed in the year 1859, at an expense of about $25,000. Almost the entire credit for this belongs to a distinguished physician, who was at that time an influential member of the City Council—Dr. Livingston Dunlap, who died with pneumonia in September, 1862. For many months the building remained unfurnished and useless, until finally, in the latter part of April, 1861, shortly after the declaration of war, with the consent of the city authorities and by direction of Gov. O. P. Morton, it was taken possession of, furnished and conducted as a military hospital from May 1, 1861, to June 15, 1865, the surgeon in charge during that entire period being the individual who now addresses you. The capacity of the hospital was greatly increased by the erection of additional buildings, and during the time specified the number of sick and wounded received for treatment was 12,991; of these 12,170 were Union soldiers and 821 prisoners of war. There were few military hospitals in the country where the sick were better provided for or had better nursing, and it is a source of pleasure at this late day to say that a few devoted Catholic women, "Sisters of Providence," who for over four years had entire charge of the domestic department, deserve almost all the credit for the success attained. The property was used for a soldiers' home from July, 1865, to April, 1866, when it was vacated by the removal of the soldiers to Knightstown, April 27, 1866. A card appeared in the *Daily Journal*, written by the former surgeon of the hospital, urging the necessity of procuring furniture and supplies for the institution, and its permanent adoption by the city. At a special meeting of the Council, May 31, 1866, an ordinance was passed for the government of the hospital, a board of trustees was elected, and Dr. G. V. Woollen selected as superintendent. Dr. P. H. Jameson was at the time a member of the Council, and the success of the movement was chiefly due to his energy and industry; in fact, the ordinance was drafted by him. The register of the hospital while under control of the city authorities shows that the whole number received from July 1, 1866, to March 1, 1883, was 12,111; the number of births, 662; and the ratio of mortality was slightly in excess of 5 per cent. Therefore, the soldiers and civilians who have reaped the benefits of the institution from May 1, 1861, to March 1, 1883, reaches the enormous number of 25,102 persons, and by aid of these figures, and in full view of those old dilapidated frame extensions, we may begin to have some appreciation of the necessity for new and improved hospital buildings.

"THE OFFICERS OF THE HOSPITAL

"Since July 1, 1870, when Dr. Woollen's term of service expired, Drs. E. Hadley, J. W. Marsee, A. W. Davis, W. B. McDonald, F. J. VanVorhis, W. H. Davis and W. N. Wishard have filled the position of superintendent, in the order named, Dr. Wishard being the present worthy incumbent. Dr. A. W. Davis died before the term expired for which he was elected. Since July 1, 1866, the following named gentlemen have always cheerfully given their time and professional services to the hospital inmates without any hope of reward, excepting the consciousness of duties faithfully performed. The names are copied from the staff register, and any omissions are, of course, unintentional: Drs. John S. Bobbs, G. W. Mears, John A. Comingore, F. S. Newcomer, T. Parvin, J. H. Woodburn, T. B. Harvey, J. K. Bigelow, Joseph Eastman, R. N. Todd, L. D. Waterman, C. E. Wright, L. L. Todd, W. B. Fletcher, I. C. Walker, J. L. Thompson, I. A. E. Lyons, R. E. Haughton, J. R. Featherston, S. P. Collings, C. S. Boynton, A. W. Patterson, John Chambers, L. S. Henthorne, W. S. Haymond, D. H. Oliver and C. D. Pierson.

"Dr. John S. Bobbs was for many years professor of surgery in the Indiana Medical College, and Dr. George W. Mears professor of obstetrics in the same institution. They both died of pneumonia—the former in 1870, and the latter in 1879."

Following the beginning of the new buildings the development of the hospital and the inauguration of a training school for nurses were coincident. If the request of your superintendent that I include chiefly matters of history in this address is to be regarded, it would be altogether incomplete without some reference to the general character of hospital work before training schools were established, and the influence of trained nursing on the evolution of this institution. Nursing in the old days, both in and out of hospitals, was done in a very imperfect and ordinary way indeed.

In our Indianapolis City Hospital when I became superintendent on July 1, 1879, there were two nurses in the institution. One, a male nurse who had formerly been a patient, was in charge of all male wards. The other, a female nurse, was in charge of the medical, surgical and obstetrical patients in the female wards. The

nurse in charge of the female wards was a woman of middle age who had acquired some experience in nursing in one way or another and who was, as nurses went in those days, a very fair nurse. The nurse in the male wards had been employed after his recovery from an illness for which he came to the hospital and he had had no previous experience or training and I was subsequently compelled to deprive the hospital of his valuable services because of an inclination on his part to use his personal endeavors to diminish the supply of alcoholics about the institution. His success in this endeavor was so marked that he was not infrequently incapacitated for duty as a result of his arduous efforts.

At that time no records were kept by the nurses and in the nature of things it was possible for the physicians to keep only occasional and then imperfect records. We made our rounds of the wards with large prescription books under our arms, and after writing our prescriptions for each case, we went to the drug room and filled them, and in many instances placed the medicine on the washstand at the side of the patients' beds and trusted the patients with taking the medicine themselves. Of course, with the very sick patients, the nurses carried out the orders, but the duties of the nurses in administering medicines and caring for patients were necessarily limited to those cases absolutely requiring attention. In the nature of things, one nurse could scarcely give very much individual attention to the different cases when that nurse had to care for all the patients in the department to which he or she was assigned and when there was but one nurse in the male wards and one in the female wards. The temperature and pulse records were kept by the house physicians and the superintendent, and owing to the multitude of their duties oftentimes only a mental record was made.

The duties of the nurse consisted in keeping the wards in order, in bathing the patients and in giving such attention as was possible to those who were very sick. Much of our time was occupied in dressing surgical cases. If an amputation was done, the wound had to be dressed daily. This was done in all suppurating wounds and practically all wounds were suppurating wounds in those days. We knew very little about preventing or controlling suppuration. Our antiseptic dressings of to-day were then unknown and the applications to wounds which we had at our disposal were limited to jute, lint, absorbent cotton and various ointments which were then supposed to exert a healing influence on wounds. Pus was the order of the day. I remember a statement which one of our teachers in those days used to often make as illustrating the idea of the proper course which the wound should pursue in the process of healing. He said that pus ("laudable pus" as it was called) was necessary for the proper healing of the wound and that something was wrong if the wound was not bathed and protected by this lubricant which he called "God's salve."

The surgery in which most of the operating was done was also very frequently our dressing room for surgical cases and if the patients could not be removed to this place, the dressing was performed in the wards where the patient was surrounded by other surgical cases. We had our fountain syringes, our rubber sheets and slop pails and the wounds were irrigated freely with warm soap suds and then rinsed with clean water and the dressing applied. We did not know the first principles of sterilization, and pathogenic germs as factors in the production of disease were strangers. Such a thing as primary union of a wound was practically unknown.

About that time an innovation was made in the use of boracic acid on wounds after they had been cleansed, and over the boracic acid layers of lint were placed and over that a liberal pad of absorbent cotton. Some objection was offered on the part of some of our surgical leaders of those days on the ground that a dressing of this kind would keep the wound too dry and would absorb all the pus and prevent the wound from being bathed by the protecting "laudable pus." However, it was soon discovered that cleansing the wound thoroughly and drying it perfectly and dressing it with boracic acid and then putting on absorbent lint and absorbent cotton seemed somehow to be attended by better results than where a large piece of lint was smeared with ointment of supposed healing power and then placed over the wound.

In the obstetrical wards cases of puerperal septicemia were more or less constantly present. Our first efforts in 1884 in preventing it were based on the experience of the New York Emergency Obstetrical Hospital with fairly successful results, by the use both prior and subsequent to confinement, of liberal douches of a solution of carbolic acid. In doing this we were in the habit of washing our hands thoroughly with soap and water and giving the patients a thorough douche of 1 in 50 or 1 in 100 solution of carbolic acid and then applying cloths wrung out of the carbolic acid solution to guard against the invasion of the dreaded bacteria.

When Lister read his paper before the International Medical Congress at London in 1880

and announced his experience and views in the antiseptic treatment of wounds, it startled and awakened the surgical world and it is within the memory of most of our middle aged and older practitioners that the initiative made by his announcement was the beginning of a revolution of methods in the treatment of wounds.

Brain surgery was then practically unattempted. Abdominal sections were only occasionally undertaken, and then by daring operators in desperate cases. No one had previously dared to dream of a day when the brain, the spinal cord, every organ of the abdomen and even the thorax and the heart itself, the very citadel of life, should be the field of legitimate surgical operative procedure. The first abdominal section which I ever saw was performed by Dr. Wolfolk, a young surgeon of Indianapolis, in the Indianapolis City Hospital clinic room about 1877. The patient was a colored woman and the operation was done for the removal of an ovarian tumor. Practically all the physicians in Indianapolis were invited to be present and every seat was occupied and standing room was at a premium. When the abdomen was opened and the tumor was being examined, one of our leading surgeons stepped forward and committed what we now would regard as the unpardonable error of passing his unwashed hand through the wound and into the abdomen for the purpose of examining the growth. As might have been expected, the patient died, although her remarkable vitality enabled her to survive for several days.

To Dr. John Chambers, of blessed memory, formerly a teacher in the Medical College of Indiana, is probably due the credit of first introducing antiseptic methods in treatment of wounds in the State of Indiana. After Dr. Chambers, who was a member of the Indianapolis City Hospital staff, had given me a very interesting account of Lister's new work, I requested him to give me a list of things necessary to carry out antiseptic methods and I purchased at his suggestion a supply of carbolized gauze and Lister's protective (an antiseptically prepared oiled silk), together with a very large steam spray apparatus. The first amputation which Dr. Chambers performed under the new method was a surprise in its results in view of the prompt healing and slight amount of suppuration following. The limb was bathed in carbolized solution after having been washed and shaved and while the operation was in progress I held the large steam spray apparatus in my hand and in accordance with the ideas then prevailing, kept the atmosphere of the room moist with carbolized steam in order to destroy the invisible bacteria that were supposed to be floating in it and seeking an opportunity to light on the open wound. We know now that cleansing the wound and cleansing our hands and having our instruments sterilized do more to prevent the invasion of bacteria than mixing the atmosphere of the room with the suffocating steam produced by boiling carbolized water. When the first paper on the antiseptic treatment of wounds was read before the Indianapolis Medical Society, the antiseptic treatment of wounds in all hospitals and in private practice had been somewhat imperfectly in practice for three or four years. The late Dr. Joseph W. Marsee who was perhaps the ablest and best teacher of general surgery Indiana has ever produced, in discussing this paper and in emphasizing his own conversion to the new method of treating wounds, expressed himself by saying: "*Mr. President and Gentlemen:* I do not know anything about bacteria. I am not a bacteriologist. I would not know a germ if I were to meet it coming down the street, but I thank God that whereas I was blind, I now see and I know that by antiseptic treatment of wounds I have been able to greatly improve and almost completely change the conditions and results following surgical operations."

The picture that I have just painted very poorly represents the real condition of affairs existing before the introduction of antiseptic methods and before the establishment of training schools for nurses. The establishment of this training school in connection with our Indianapolis City Hospital came as a welcome relief to the imperfect methods which had previously been used. About June or July, 1883, I was invited by Rev. Oscar McCulloch to attend a meeting of the ladies of the Flower Mission held in old Plymouth Church on Meridian Street near what is now known as Monument Place. The site of this church is now covered by the north end of the Hotel English. There were present at this meeting Mrs. J. H. Stewart, Miss Mary Rariden, Mrs. George H. Chapman, Mrs. R. R. Parker and two or three other ladies whose names I do not now recall. They explained to me that they had a sum of money which they desired to use in establishing a training school for nurses and in establishing a Flower Mission Hospital. They said that in order to obtain nurses properly trained for the care of their patients in the then proposed Flower Mission Hospital, they desired to obtain my cooperation and to that end asked if I would be willing to second their efforts in establishing a

training school for nurses in connection with the City Hospital, with a view to afterward using at least some of these nurses in the care of their patients in the contemplated Flower Mission Hospital. They explained more fully than I had before understood the work of the training school which is connected with the Bellevue Hospital as observed by some of the ladies of the Flower Mission on a recent visit to New York City.

I was intensely interested in what they said and immediately and gladly pledged them my hearty cooperation. Mr. McCulloch and these good ladies should ever be held in grateful remembrance by the citizens of Indianapolis for the noble work which they did in this connection. This school was the first one established in the State of Indiana, and I believe the second training school established west of the Allegheny Mountains, the first one in the west having been established at Chicago. September 1, 1884, Miss A. A. Traver, a graduate of the Bellevue Training School, was installed as superintendent of our new training school. On the first day we began with one pupil nurse, Miss M. E. Iddings. New pupils soon began to arrive and their white caps and aprons and striped dresses and bright faces gave a new and brighter appearance to the erstwhile somber wards of the hospital. I cannot express the relief which their intelligent, conscientious and capable assistance gave. Their records of cases and care of patients brought hope as a constant and welcome guest into the institution. About November 1 of the same year Miss Richards and Miss Crosby, both graduates of the Bellevue Training School, came as assistants to Miss Traver. Miss Crosby was succeeded in a short time by Miss Dryer, who was also a Bellevue graduate. The establishment of the school, however, was attended by some opposition. I very well remember that one of our leading physicians who was then a teacher in one of our medical colleges asked me in all seriousness if I was not afraid that I was making a great mistake in establishing a training school for nurses. He wanted to know if there was not danger, that in giving these young ladies a course of lectures and study and of practical instruction at the bedside, that they might in an objectionable manner in many ways supplant the physician. He seemed to think that an educated nurse would be inclined to arrogate to herself the functions of a physician and to supplant the latter in his authority and control of cases. I told him that I had no thought of such a result, that if it did occur, it would be the fault of an occasional individual nurse and would not be chargeable to the system of educating nurses.

Within a few months after the training school was started, this same physician and the majority of our other leading practitioners besieged Miss Traver and myself with requests for the services of nurses in their private practice. Perhaps you take for granted the fact that trained nurses are so essential and such a necessary adjunct in the practice of medicine nowadays that you may not be especially interested in what you may regard as ancient history. However, I think it well that we should remember the days of small things and "forget not the pit from which we were digged." Two of the instruments that have been most potent in digging the practice of medicine from the pit in which it formerly floundered are the antiseptic or more properly speaking the aseptic method of dealing with wounds, and the general establishment of training schools for nurses.

It is but a simple statement of the truth to say that the intelligent, methodical, scientific methods inculcated into the training of the nurses who first graduated from this school created almost a revolution in the method of caring for cases in private practice in this city. This revolution happily has been as progressive as it was peaceful and it is a matter of infinite pleasure to have been permitted to aid in a small way in the initiation of this change of method. This evening while we are naturally somewhat reminiscent we do well to recall the early experiences of this school and the noble women and aspiring young ladies who made its establishment possible.

Perhaps a few further facts with reference to the meeting at Plymouth Church in June or July, 1884, may be of interest. Mrs. J. H. Stewart, who was then working with the Flower Mission, suggested to Rev. Oscar McCulloch that nurses were much needed in connection with the Association's work in many poor families where proper care of the sick was then impossible. From this conference of Mrs. Stewart and Mr. McCulloch evolved the suggestion for a Cottage Hospital for women and children. Mrs. Stewart and perhaps others corresponded with Bellevue Training School of New York and with the Illinois School of Nursing connected with Cook County and the Presbyterian Hospitals at Chicago. Out of her conference with Mr. McCulloch and the correspondence of herself and others developed the plan of securing some of the wards for women and children in the City Hospital as a place to prepare their nurses for their work in the proposed Flower Mission Hospital.

Shortly before this time the cornerstone had been laid for the east wing of the present City Hospital and a new era with better opportunity for good work seemed before us, and the assurance of a new City Hospital at an early date doubtless inspired the good ladies to seek an opportunity for training their nurses in the wards of the new building. When I was invited by a note from Mr. McCulloch to attend the meeting at Plymouth Church I gladly responded and after hearing the plan for the Flower Mission Hospital and the request that I would take some of their nurses for training in the women's and children's ward at the City Hospital, I suggested that if they would get a good trained nurse as superintendent and supply a sufficient number of pupil nurses I would gladly aid them in establishing a complete training school for nurses in connection with the City Hospital and if at any time in the future their plan for the Cottage Hospital matured they would have abundant material from graduates and pupils of such a training school. The proposition was most favorably received and from a fund of money then on hand the Indianapolis Training School for Nurses was established under the supervision of the Flower Mission. I believe the sum of money secured had been obtained for the double purpose of training nurses for the Flower Mission Hospital and possibly to act as a nucleus for the building of such an institution. The home for the nurses was opened on West New York Street opposite Military Park and a horse and spring wagon purchased. The superintendent and her nurses drove back and forth to the hospital, the day nurses coming early in the morning to relieve those who had been on duty all night and the night nurses in turn driving over in the evening to relieve the day nurses.

The money which belonged to the training school had been deposited in one of our local banks and was being used together with the very meager allowance then secured from the city to defray the expense of maintaining the training school. Within a few months after the training school was established the bank containing its funds failed and we were confronted with the problem of abandoning the training school or raising the money from some other source. The loss of this money afforded a very potent argument for inducing the Hospital Board and the City Council to increase the appropriation for the training school. The amount paid the training school from the time it was established until its funds were lost by the failure of the bank was $36 a month and the training school organization furnished its own home for its nurses on New York Street and paid all expenses. After the bank's failure Mr. McCulloch, Judge Martindale and other prominent citizens went before the City Council with me and succeeded in getting an allowance of $75 per month and permission to use one floor of the east wing of the City Hospital as a home for the nurses.

The training school was then moved to the hospital where it has since remained. It was entirely separated from the Indianapolis Nursing School in the fall of 1896 at the commencement of Dr. Charles Ferguson's second term as superintendent. Its graduates are scattered throughout the length and breadth of the land. Some of them, indeed, have gone to foreign lands and one at least, Miss Carrie Bell, has become a martyr, having died of cholera while serving as a foreign missionary and nurse in the Isle of Ceylon. A number of the graduates of this school have become superintendents of training schools in other cities. The influence of the training school on this hospital is something I cannot fully portray. Its influence outside this hospital has been equally potent. It is largely through the influence of its graduates that the evolution of nursing in Indiana has been so constantly progressive.

In closing let me call attention to the official recognition in Indiana of the profession of nursing. On Feb. 27, 1905, the Indiana legislature passed an act which gives the highest legal sanction to the fact that nursing is one of the learned professions. This act provided for the appointment of a state board for the registration and examination of nurses. In Section 7 of this act referring to the revocation of license, nursing is specifically designated as a profession in the language of the statute, which after defining a series of reasons for the revocation of licenses closes by saying the board may revoke the license for any of these specified causes: "Or any other act in the judgment of the Board derogatory to the morals or standing of the *profession of nursing.*" This law further makes it a penalty for any person to hereafter advertise or assume to bear the title of Trained Nurse or Graduate Nurse or to use the abbreviations of T. N., of G. N. or any other words, letters or figures to indicate that the person using the same is a trained, registered or graduate nurse, unless he or she shall have first received a license and a certificate from the State Board of Registration and Examination for Nurses. The violation of this law constitutes a misdemeanor and is punishable by a fine of not less than $25 for the first offense and not less than $50 for each subsequent offense. The law does not assume to prevent any person from act-

ing as a nurse with or without compensation, but it specifically forbids that anyone who has not taken a course of study and training in a school of nursing shall be permitted to assume the title of registered nurse, graduate nurse or trained nurse. You are entitled to legal recognition as members of the profession of nursing by virtue of your faithful application and capable execution of your work here in this school. The profession of nursing like the profession of medicine is now established on a legal basis. The law exacts rigid requirements from all those who would engage in the practice of medicine and from all those in the practice of nursing. The state has made provision for the education of lawyers, for pharmacists, for engineers and others and having required by legal enactment such a high standard for the medical profession and the profession of nursing, it seems but fair that the state should provide ample educational facilities for these two professions as it has for law, pharmacy and other callings.

Finally, young ladies of the graduating class of 1911, permit me to congratulate you on the completion of your labor and on behalf of the authorities of this hospital and also on behalf of the Indiana Association of Trained Nurses and on behalf of the medical profession of the state I bid you welcome as worthy handmaidens of the healing art. The fields of opportunity and noble endeavor are already white for the harvest and may you each gather many sheaves and attain a full measure of success.

SPECIAL ARTICLES

DOES IT PAY?*

JARED SPOONER, M.D.
PERU, IND.

Mr. President: In these days of fierce commercialism, when all our affairs, emotional, moral and financial are measured by the dollar mark, and if, perchance, our affections have become a little shopworn they are marked down to 98 cents; in these sinister days when we love our friends 25 cents' worth and hate our enemies 2 dollars' worth; in these days when the chief function of the medical societies is to meet and raise the fee-bill, and our official journals print an article by a writer who seems to be possessed of the idea that he ought to tell the county society members what they must charge for their services, and seriously discusses the propriety of expelling from membership those of us who resent such petty dictation, but finally concludes to let us remain members and dismisses the subject with a contemptuous sneer; in these days, when the freshman in our medical colleges scarcely gets his seat warm before he advertises himself as a "specialist," and wantonly declares that, should any person ever secure his services, he will have to "come through," "come across," "produce the coin," but never for one moment, or by any person, do we hear the query: "What opportunities will I likely enjoy, that I can be of service to the community in which I may happen to live? In view of these conditions it may be well for us to try and answer the query "Does it pay?"

In order to enter on the study of medicine, the young man must be well educated, at least a high school education, and in most of the better universities, in addition to the high school diploma, he must have had two or more years of college work, and in some of the schools of medicine the applicant must be the possessor of a degree from some recognized literary college, and have a reading knowledge of German or French, or both, and he must have attained to the age of 21 years, the best year in one's life. I mention these facts that one may estimate the cost of a medical education. A young man thus equipped would be able to command a salary of $1,000 a year. For from four to six years of this valuable life must be given up to the acquisition of knowledge sufficient to pass the license board examination and to enter the practice of medicine. College fees, books and transportation to and from college will cost at least $1,000 per year for the four years, and if he gets one or two years as intern in a hospital, in addition to his loss of time, he will have to use from $100 to $200 per year. Add to this a very moderate trip abroad which will cost another $1,000. So that by the time the young man enters the practice, he has invested not less than $10,000, and for the next few years he must work hard for little pay. If perchance he should happen to die or become disqualified, all is lost. No part of the investment can be redeemed for use in any other vocation, and if by some peculiar twist of his personality he fails to "make good," he is soon heart-broken, discouraged—possibly dissipated. And as we are hurried along the strenuous path, or are borne on the bosom of the stream of life, we frequently see some of these pathetic figures whirling round and round in the eddies or cast ashore in the drift. We turn our heads away and pretend we don't see them, but we know they are there. From

* Toast read before the Eleventh Indiana Councillor District Medical Association at Delphi, May, 1910, by the late Jared Spooner, M.D., Peru, Ind.

these calculations we are forced to the conclusion that as a financial business the practice of medicine is a failure, that it does not pay. But what of the better pay—the consciousness of not having lived in vain?

From these generalizations we will present to you a few concrete examples from actual life and then let you decide the question Does it Pay?

In the county in which I live there once lived a doctor. He was very "thrifty." About the only part of the game that he played was the getting of the fees. He waxed rich. It was unknown that any one ever escaped paying the last fraction of his exorbitant bills. If it took the last cow, the last pig, the last turkey or chicken, or the last chair, or the last table, or last feather bed, so much the worse for the victim; but he got the "goods." It is related of him that on one occasion in which his patient died, the time for the funeral approached. The doctor took up his position in the path and obstructed its further progress until he had secured the consent of the widow to take the last cow from a family of half-fed children as pay for helping the father over the "divide," and clinched the payment by driving the cow away before the funeral procession returned. After that he died —they all die—he died with his clothes on, and when the undertaker and his executors came to examine the body they found money: money in his right coat pocket, money in his left coat pocket, money in his breeches pockets, money in his vest pockets. Every time they turned that thing over they found more money. They found over $4,000 in government bonds, over $4,000 in currency and $1,500 in bank certificates, sewed into the lining of his clothes. Did it pay? It is believed by some that the pockets in that shroud are burned out.

Many of you, possibly all of you, have read in the papers a few months since the account of the widow dying of tuberculosis, with one child—a little fellow scarce 12 years old. The doctors had claimed their fees to the last fraction from that baby. With only enough left to pay the express on the corpse that little hero took the body of his dead mother up into southern Michigan that her body might lie beside the body of the father. But no money was left to pay for food for himself or to pay for the digging of the grave. So the little fellow undertook the task of digging that grave in the night. Morning found the starving child beside an unfinished task, fainting in that unfinished grave. The doctors had their pay, but did it pay? "Weighed in the balance and found wanting."

By contrast: you have heard or read of Dr. Wilfred T. Grenfell, the missionary doctor of Labrador. This man was born in 1865 near Liverpool, England, of an eminent family of soldiers and scholars. His early education he got from his father, a clergyman, schoolmaster; his medical and surgical training from Sir Frederick Treves, the famous English surgeon. Possessed of ample means, finely educated, an attractive personality, he had the entrée to all that was or is in the select circles of wealthy Englishmen. Yet from all this promise of future gain or luxury and ease he turned to look for a *real* place, somewhere, something that would challenge his better self to do its best. About this time he met Dwight L. Moody, the evangelist, who suggested to him the career of the doctor missionary. Since that time, 1892, he has been the family doctor for 30,000 people scattered along the bleak shores of an arctic ocean. His mode of travel, snowshoes, dog sled, an open boat or ocean schooner. Every winter he travels some 2,000 miles through a frozen wilderness, usually sleeping in the snow, but visiting every family on the way. Every summer he cruises from 3,000 to 4,000 miles, between St. Johns, St. Anthony, Harrington, Battle Harbor and Indian Harbor, places and harbors that "God forgot." In addition to his duties as family physician to 30,000 people, he has equipped a hospital ship, has built and equipped three hospitals, and organized a corps of trained nurses to care for the inmates. He has established saw-mills, factories, coopperages and ship yards and cooperative stores, eight of them since 1896. The doctor gave a description recently of one of his attempted visits to a patient some 60 miles away. He tells how he received word of an urgent case, a probable amputation, how he started with a dog team, an extra outfit, snowshoes, rifle, compass, axe and oilskins; and how, in crossing a wide arm of the sea, over salt water ice, all went well until he was about a quarter of a mile from the landing. Then the wind fell and the ice that had been blown in shore began to spread. Retreat was impossible and trying to drive the dogs to shore, they sank through the slush ice into the water, dogs, sledge and doctor. He tells how he scrambled forward and cut the traces in the water; how he caught a trace and swam and was pulled through the slush ice to a pan as large as a dining-room table, on which they finally scrambled—dogs and doctor—the doctor making slow progress because of being pushed in the ice and water by the dogs climbing on him. He tells how he lost his clothes piece by piece; how he huddled his dogs against his freezing legs; how he had to fight to keep his

dogs from crowding him off the pan of ice; how he passed a lonely night on an open ocean on a small piece of ice not larger than a dining-room table, with a band of snapping, snarling, hungry wolf dogs; and finally how he made a slip knot with a sealskin trace that he had preserved by wrapping it around his body, and slipping it over a dog's head, tied it to his foot close to the dog's neck, threw him on his back and stabbed him in the heart, and drank the warm blood to keep from freezing; killing and skinning three of his dogs that he could have their bloody hides for a covering for his freezing body, and how he was rescued by the Newfoundland fishermen; how he stepped ashore from that rescue boat, tied up in rags, stuffed out with oakum, wrapped in the bloody skins of dogs, with no hat, coat or gloves, truly a wierd sight. Does it pay? Why he gets the munificent sum of $1,500 a year. Recently he was knighted by King Edward, who declared him one of the most distinguished and most useful of British subjects. That is a gewgaw that does not appeal to us Americans much, but every man, woman and child on that coast was there when he stepped ashore to wash his frozen hands with their warm tears, because of thankfulness for his deliverance. On November 18 he was married and took his bride to that frozen land for their honeymoon. Again every man, woman and child was out to meet him at homecoming and worship at the shrine of their idolatry. Does it pay?

In the *Journal of the A. M. A.* for Oct. 6, 1900, is the obituary of Dr. Jesse W. Lazear, who died from yellow fever at Quemados, Cuba, of a voluntary exposure in the line of duty. That he was a superior man, with unusual qualifications, we know, as he got his B.A. degree from Johns Hopkins and his M.D. from the College of Physicians and Surgeons of New York; that he went abroad for a year of study, and that he was demonstrator of clinical microscopy in Professor Osler's clinic at Johns Hopkins Hospital. He entered the army in the spring of 1900, was at once assigned to duty at Quemados and made a member of the board appointed for the study of yellow fever, and placed in charge of a laboratory. He became enthused of his work but lost his sense of proportion, lost his sense of the value of his own life and had visions and dreamed of tropic empire redeemed for the habitation of man, of homes and the lives of loved ones made safe if this vile plague of yellow fever could be conquered. So with an abandon and generosity Christlike in character he voluntarily gave his life that his fellow man might realize his dream. Did it pay? He received the magnificent sum of $2,000 a year and an allowance for quarter, on which to support himself, wife and child. When he died, what of the wife left to drag out the days of her dreary widowhood, probably with a petty pension? But his posthumous fame, by its magic touch, has planted roses by the side of, and scattered forget-me-nots in her path; by its mystic power transformed the dull garb of poverty into fame's immortal draperies, and fame, sweet, sweet fame.

In 1867 I went to the Auburn High School in preparation for entering the study of medicine. Indeed it was quite the fashion in that early day to be able to read—most of the doctors of that time could read—not all of them—but most of them. The principal of that school—I can say now after having passed the middle of life—was the cleanest man I have ever known—the cleanest of sin. He lived clean, talked clean, thought clean, was clean. He too began the study of medicine. I think it was in the fall of 1868 he got married to one of the brightest, happiest, most charming, most loving creatures that ever lived. I was at the wedding. At that time it was known of his resolve to be a doctor and many were the prophesies of a happy and useful life. He moved to and I went to Ann Arbor where we both entered the university as medical students. We both graduated in 1871. During all that time he was my mentor, my exemplar, my superior, and I was happy in being the possessor of his unwavering, steadfast friendship. He located in Toledo, Ohio, some time in the fall of 1871, and with superior qualifications and a charming personality he was rapidly pushing to the fore when an epidemic of small-pox broke out and he and that fair woman were looking into each others' faces, out of which the smiles had faded. He had heard the Master's call: "I was sick and ye visited me." To him that call was imperative. So he walked out of his door into the pest house in obedience to the Master. He never came back. In a few days the pestilential mass that was once that good man was carried out the side door at midnight, and this man who had never closed his eyes at night or took of food without acknowledging his faith in God's wondrous love, was buried without preachment. The widow, that once fair, happy bride, inexpressibly shocked, took up her life of mourning. She breakfasted on despondency, dined of grief and supped of sorrow. The somber hue of the encompassing melancholia deepened and deepened and deepened, the shadows of her despondency lengthened and lengthened and lengthened. A few years ago, after trying in

vain for two hours to get the least flicker of recognition from that gibbering idiot—the once happy, charming woman—I staggered out of that madhouse over at Logansport with a dull ache in my heart, and turbulent of a sorrow "whose crown of sorrow was remembering happier times and things." For that intervening thirty years passed in review: again I was at that wedding; again I saw that bride tricked out in her fascinating fineries; heard the prophesies of future usefulness; heard the music and the prayers asked for their future happiness. And in the bitterness of soul I cried out: "Great God, does it pay?" In the calm that followed that exclamation I realized something of the grandeur of purpose of an over-ruling Providence—the divinity that fashions our compensations. I realized that the heroisms, the martyrdoms, that the lives of such elevated, ennobled, glorified and purified our lives; that such lives were the sacred freight put on the scaffold, swaying the future to make for these better days. That such men, by their sacrifices and heroisms transcended their own ideals, lived to a more exalted purpose than they themselves had calculated, and that we of grosser fiber share their glories. We speak of them as our brothers. They were us. We are them. They belonged to our clan, our tribe. We are of their breed, and finally that it takes such toll to wash out the stain of shame put on the profession by the cormorants that sail under the banner of the Samaritan, and to fix for the admiration of mankind the highest place, the overwhelming supremacy of the medical profession as the Samaritan and lover of their fellow man.

So to-night I am going to ask that mysterious power, your dear God, to help me convince you that it pays to be the missionary doctor, driving his dogs along the bleak shores of a frozen ocean, to the end that he may bring health and comfort to those lonely fisher folk; that it pays to be the scientist giving his life to the end that posterity may realize his dream of tropic empire, redeemed of plague, for the habitation of man; that it pays to be just the common doctor, the kind of man to whom the timid child will confide his chubby fist as he walks a dark lane, one who hears the Master's call though he lose his life, though he be redeemed of the pest house and his loved one is enthralled of a madhouse; that it pays to deny avarice and put away greed; to be the Samaritan and not the Shylock; to give to the starved babe the mother's breast, home to the homeless, rest to the restless; that it pays to be a doctor.

PROFESSIONAL FELLOWSHIP AND BROTHERLY LOVE *

C. E. Linton, M.D.
Medaryville, Ind.

"Behold how good and how pleasant it is for brethren to dwell together in unity." "Be kindly affectionate one to another with brotherly love." "If it be possible, as much as lieth in you live peaceably with all men."

In quoting these lines from the Holy Bible I will offer no apology but beg to say that ever since beginning the practice of medicine I have been repeatedly impressed with the lack of true fellowship among physicians. Have you ever stopped to ask yourself the question, "Why?" Were you ever in a community where the medical men were all on a friendly footing, where they would drop in and visit each other daily or weekly as we see merchants, bankers, druggists and men engaged in other lines doing? Isn't it a fact that the laity can tell you, in almost every town or village, of the animosity which exists between the physicians residing there, and usually, alas, there is too strenuous or unfair rivalry among the men so situated, and though they may, if called on, assist each other in an emergency, it is done in a half-hearted manner, evident possibly even to the laity.

Why should this condition exist? Are there not enough trials, temptations and troubles in our daily lives to tend toward making us hard and cold toward all the rest of mankind, without nurturing a feeling of jealousy, envy or spite against a brother physician? Do you not realize that we are dwarfing our minds, steeping ourselves into the mire of degradation, and lowering the standard of our high calling in the eyes of a gossip-loving, scandal-bearing public, causing us to lose many of the great enjoyments that this life could furnish? If one expects to be held by the profession or the public at anything near like the estimate he has privately laid on himself, he must be willing to concede that there are other physicians who have equal ability and attainments, if not greater, than he himself.

A good physician is one who is good to us, and a bad physician is one who doesn't do what we want him to do.

If we expect to get friendly greetings and help during our needs, we must be ready and willing to give our aid when needed, and should be the one to go more than half-way, if necessary, with the smiles and sunshine. We are too apt to nurse the recollection of a wrong, and often fail

* Read before the August, 1910, meeting of the Pulaski County Medical Society and, by unanimous vote of the society recommended for publication in The Journal.

to give any credit for kind deeds. How can we expect the laity to respect the medical profession when we do not prove that we are worthy of that respect?

Some physicians will say: "I do not speak ill of any brother practitioner." Ah, yes: but do you ever speak any words of praise for him? Do you ever give him credit for doing any difficult operations, or concede him to be a man with as much skill as yourself? Why not? Are you afraid that any commendation of yours will detract from his prestige? Are you egotistic? No. On the contrary the more glory that any medical man achieves, or the more rapid progress of medicine, must also uplift your own reputation. Build up the respect of the laity for the medical profession: then the greater will their respect be for you if you prove yourself a worthy member of that profession.

Try and say something kind about some physician toward whom you have not shown a kindly spirit and see if he won't at once begin to have a friendly feeling toward you, and will possibly retaliate in kind.

The laity, who have been only too eager to carry your criticism and harsh words to him, will now for the novelty alone, in hearing you speak kind words, carry them just as eagerly to him likewise, and very soon indeed you will find a friend, a man like yourself who is now ashamed of the petty jealousies of the past, who, like you, has been striving day and night, through winter and summer, in all conditions of weather to make a few dollars that he might feed his family, pay his bills, perhaps educate his sons or daughters, or lay aside something for the proverbial rainy day. Why, here is a man after all who is not nearly so bad a fellow as you thought, and is merely a fellow laborer, suffering all of the trials and vexations of a doctor's life, and isn't it strange that you never realized before what a bright and accommodating fellow he was, and now he is always ready and willing to assist you in your operative work, visit your patients during your absence or illness, and you may rest assured that he will speak no words of condemnation of you to your patients to gain them for his own, unless you have not been following the golden rule yourself. "Do unto others as you would have them do unto you." Then speak well of your professional brother, and all of your praise for him will simply be as a staff to help you up higher in the estimation of all true men and women.

Let us try and realize, my dear brothers, that this life is simply what we make it, and we may well compare our professional environments to that of looking into a pool of clear water: smile into it and you will get the smile back; but if you snarl, snap and scowl, they will surely be reflected back at you, greatly magnified. Which do you prefer, gentlemen? Remember that if you sow deceit, jealousy, envy and malice you cannot expect to reap sunshine, goodness and a clean, wholesome feeling.

Now, my brothers, let us join hands and help each other along life's rugged pathway. Let us be men of sterling worth, men of brave hearts and working hands, men of truth, of purity, of nobility. Let us be too honorable to stoop to aught that is mean or base, too honorable for petty selfishness and little-minded envy, too honorable to say an unkind word or do an unkind act. Let us be noble, large-hearted, upright gentlemen in the midst of this world of deceit and sin. Let us pride ourselves on a better manhood, thinking higher thoughts, doing kind deeds, speaking kind words and living clean, wholesome lives, and when that time comes when we shall pass "into that mysterious realm, when each shall take his chamber in the silent halls of death, go, not like the quarry slave of night scourged to his dungeon, but soothed and sustained by an unfaltering trust. Approach thy grave like one who wraps the drapery of his couch about him and lies down to pleasant dreams."

THE LOS ANGELES SESSION OF THE AMERICAN MEDICAL ASSOCIATION

Another session of the American Medical Association has closed, and, to use a familiar expression, it has ended in "a blaze of glory." By some it was thought to be a mistake to go to the Pacific Coast so soon after the Portland session, and yet the consensus of opinion of those who attended the Los Angeles session is that the medical profession of the great western half of the United States was not only entitled to the recognition accorded but that full justice has been given the position of host; for never in the history of the Association has the hospitality been more cordial or the entertainment more lavish and sumptuous than in Los Angeles.

Even those of the East who expected that the long trip across the continent would be hot, dirty and tiresome were forced to change opinion and unite in expressions of surprise and gratification in the realization of one of the most delightful long journeys ever taken by any of those who traveled westward to attend the Los Angeles session.

For the most part the members from the southern, eastern and central states joined at Chicago, where four special trains on the Santa Fe Railroad were boarded for the long trip to Los Angeles. These special trains were each and all duplicates of the famous California Limited on that road, thoroughly equipped with every convenience and luxury known to railroad travel, and each train in charge of a special representative or manager purposely selected for the trip. En route these four trains were joined by three other special trains, also duplicates of the famous California Limited, and the entire seven trains traveled about ten minutes apart all the way to California. The fact that these trains arrived in Los Angeles on time and without the slightest mishap or delay is in itself testimony in favor of the efficiency of the Santa Fe management. But aside from all this the passengers on all of the special trains over the Santa Fe Railroad which finally reached Los Angeles were loud in their praises of the uniformly excellent service and marked courtesy exhibited by every employee encountered. Seldom has it been the writer's experience to find in railroad travel such notably satisfactory treatment in every way as was encountered and continued throughout the long journey from Chicago to Los Angeles, and this opinion but voices the sentiment heard by everyone on the numerous special trains which the Santa Fe system provided for those who went to this year's session of the American Medical Association. The dining car system (the Harvey System) was especially satisfactory, and the unusual excellence of the cuisine continued throughout the entire journey. It was especially gratifying to find the employees of the dining car, from conductor down to cooks, uniformly prompt, courteous and very obliging. Too much cannot be said in praise of such service when compared with the wretched service afforded by most western roads.

Another feature which meets with the gratification of the traveling public is the oiled roadbed and the oil-burning locomotives of the Santa Fe System, which makes the entire trip from Chicago to Los Angeles free from dust and cinders. Contrary to expectations, the trip is cool and comfortable even in the hottest weather, as the road for hundreds of miles is at a considerable elevation, and all the coaches are plentifully supplied with electric fans, which are kept going night and day. All this is in striking contrast to the central and northern routes, on all of which the writer has traveled, where travelers are constantly troubled with clouds of dust and cinders, and where electric fans are presumably for ornament more than use, as the railroad employees permit the use of the fans only on rare occasions and even then the fans for one reason or another frequently refuse to work.

A feature of the going trip that was enjoyed by all the travelers was the stops at interesting points en route. At Albuquerque the local physicians met each special train and furnished automobiles and carriages for a drive about the city. All of the special trains made the side trip to the Grand Canyon, where a stop of twenty-eight hours was made for the purpose of giving the passengers an opportunity to see and enjoy the wonderful scenery in and about that stupendous chasm. Stops of one to two hours were also made at other interesting places, including Indian villages, resorts and scenic points. Upon reaching California the trains were taken by a circuitous route through the picturesque and beautiful orange grove country. At Redlands and Riverside stops of two hours were made, during which time carriage rides through the parks and orange groves were made, and the hospitality and generosity of the California people were made evident by gifts of fruit and flowers to all visitors. Arriving at Los Angeles, the travelers found accommodations to suit every purse, and on every hand an evidence of the cordial hospitality which has always been a notable feature of southern California.

To those of us who saw Los Angeles six years ago when the American Medical Association met on the Pacific Coast, it seems hardly credible that a city should have had such a magical growth as is evidenced by the enormously increased population, the spread of her towering business blocks and hotels, and crowded thoroughfares. The present population of 350,000 represents an increase of 211 per cent. in the last ten years, or practically four times the increase credited to any other large city in the United States. This phenomenal growth is due to two things, the varied resources of the surrounding country, and the marvelous climate. It is in the heart of a region of wonderful fertility and it has been truly said that anything will grow in southern California if it has water, and the enterprising residents of California seem to have solved the question of water-supply by their marvelous system of reservoirs and irrigation. Grain, fruit, flowers, and in fact every form of vegetation grows with that productiveness and luxuriance which only the best of Nature's efforts combined with the assistance of man can bring forth.

The climate of Los Angeles is justly famed, for it is never hot and never cold, and for a majority of the days of the year the sky is cloud-

less. Even the so-called rainy season, of short duration, is not disagreeable, for seldom will a day pass without sunshine during some portion of the day. There is usually a breeze, either from the mountains or the ocean, and the nights are always cool, even in the warmest weather. With all of these advantages, it is not surprising that Los Angeles and vicinity has become the home of wealth and refinement and a place of exceptional opportunities for development in every phase of activity which makes for prosperity and happiness. It is predicted that southern California, with Los Angeles as the center, will be the pleasure garden of the United States, as every indication points that way. Already untold wealth has poured into the region from every part of the country, and this, with what has been made in California, has been the means of developing a character of enterprise and progress which is second to none seen in this country or perhaps in any other part of the world. This is evidenced by palatial and artistic homes, magnificent public buildings, splendidly paved and well-lighted streets, the regulation of public utilities in such a manner as to subserve the interests of the people rather than greedy stockholders, and on every hand that exhibition of progress in everything which makes for the best interests of all.

For a Pacific Coast session, the Los Angeles session was particularly well attended, and the eastern representation was especially gratifying. This perhaps was to be expected, for nowhere in the far West could be offered so much to induce members to make the long journey. The registration was about 2,500, or larger than at Portland six years ago. The facilities for caring for the convention were all that could be desired, and while the officers of sections had some difficulty and uncertainty in preparing programs it must be admitted that their efforts met with unexpected success, for with few exceptions the section programs contained the usual number of papers, and while the general standard of scientific work, including discussions, was perhaps not up to the mark set by some eastern sessions, it was in no sense below the average and may be credited as successful in advancing the purposes of our great national medical organization.

The social features were especially noteworthy and in keeping with the reputation of the people of southern California for beautiful and lavish hospitality. The program of entertainments was as follows:

Monday: Afternoon, automobile trip about city. Evening, banquets and dinners of auxiliary societies. Dinners of medical editors.

Tuesday: Morning, reception for visiting ladies. Afternoon, tea for visiting ladies. Evening, alumni dinners.

Wednesday: Morning, auto ride about Los Angeles and to Country Club for luncheon. Afternoon, garden party tendered by Dr. and Mrs. W. J. Barlow. Evening, official reception to the president of the A. M. A., Dr. John B. Murphy of Chicago.

Thursday: Morning, auto ride about Los Angeles. Afternoon, Al Fresco Musicale tendered by Dr. and Mrs. Norman Bridge. Evening, general evening reception and smoker on roof garden of the Hamburger Building.

Friday: (All day) 1. Excursion to Pasadena with luncheon in the Busch Sunken Gardens. Chariot and other races at Tournament Park in the afternoon. A trip in the evening to the beaches at Venice and Ocean Park for luncheon and carnival. 2. A trip to Catalina Island, the magic isle of the Pacific, where a fish dinner was served. In the evening a trip to Venice and Ocean Park for luncheon and carnival.

Saturday: 1. A trip to Long Beach, with luncheon at Hotel Virginia. Surf bathing. 2. A yacht trip to Catalina (for those who did not go Friday).

Too much cannot be said in praise of these various entertainments, for they all were carried out with an elaborateness of preparation and sumptuousness which left nothing to be desired by the recipients and nothing to be added to prove a liberal, lavish and most cordial hospitality on the part of the Los Angeles entertainers. The lawn fete on Wednesday and the musicale on Thursday, on the beautiful grounds of Dr. Barlow and Dr. Bridge, respectively, were very charming entertainments, and gave the visitors an opportunity to see typical Los Angeles homes with their wide expanse of velvety lawns and a wealth of flowers and tropical foliage. Then the trip to Pasadena on Friday was one long to be remembered. Here the extensive sunken gardens, the finest in the world, were thrown open to the visitors, and the owner, Adolph Busch, of brewing fame, served a Spanish luncheon, which was appetizing and substantial. Mr. Busch very thoughtfully provided an abundance of his Budweiser brew as a beverage and, when it is known that he served a splendid repast, an over-abundance of beer, flowers, music and souvenirs for six thousand visitors, we are reminded that a brewer can be liberal and that from the standpoint of worldly possession it pays to be a brewer in the class with Mr. Busch. However, it was a gracious and generous act for Mr. Busch to throw open his beautiful and extensive gardens and

furnish music and refreshments to the members and guests of the American Medical Association, and we extend our compliments to the originator of Budweiser and thank him for his splendid hospitality no matter what prompted it.

The trips to Venice (Coney Island on a small scale) and Ocean Beach, and to Catalina Island were rare treats, especially the latter. Thirty miles out in the Pacific lies Catalina, the Magic Isle, with its scenic beauties, submarine wonders seen through glass-bottomed boats, unexcelled fishing, and invigorating ocean breezes. A visit to Los Angeles without adding a trip to Catalina would have been incomplete, and it was a pleasure to have such a treat a part of the entertainment provided for members of the American Medical Association and their guests.

The selection of Atlantic City as the place for the next session of the American Medical Association proved generally satisfactory, for it seems to be the consensus of opinion that the Association should meet at Atlantic City about every other year, as no place is so well prepared to take care of a large convention and the members enjoy going there.

The fact that Dr. J. N. McCormack, whose name was ballotted on, was not chosen as the next president caused considerable disappointment among the rank and file of the Association, though all realize that the aged Dr. Jacobi deserves the honor conferred on him and in due time Dr. McCormack will receive a similar honor.

According to the official registration, Indiana was represented at the Los Angeles session by sixty-two members, and many of them took a very active part in the proceedings. The list will be sent The Journal for publication along with other news notes concerning the Los Angeles session.

Albert E. Bulson, Jr.

San Francisco, July 1, 1911.

THERAPEUTIC NOTES

Hyperhidrosis of the feet may sometimes be promptly relieved by soaking the feet for fifteen to twenty minutes in a warm saturated solution of sodium bicarbonate for three or four evenings in succession.

The Soy Bean as a Food in Diabetes.—The addition of a palatable food to the rather limited diet of a diabetic must be greatly welcomed. Friedenwald and Ruhräh (*Am. Jour. Med. Sc.*, December, 1910) report their investigations on the use of the soy bean as a diabetic food. There are a number of varieties of the beans. The yellow beans grown in America have the following composition:

Water	10.13
Protein	34.63
Fat	17.98
Nitrogen free extract	30.50
Fiber	3.69
Ash	3.07

It is remarkable that these beans, while resembling the ordinary beans, contain very little or no starch, the highest percentage of carbohydrate found in any variety being 3.2 per cent. The absence of starch Stingl and Morawski explain by the presence in the grain of a diastase capable of converting starch into sugar and dextrin.

The above facts make the soy bean a particularly suitable food for a diabetic. The beans may be prepared by soaking them twelve to sixteen hours, until the skins come off, stirring until the skins rise to the surface and can be removed, then boiled in salt water or with bacon until soft, seasoned with pepper, salt and butter and served hot.

A flour is manufactured from the beans, which can be used for making gruels, broths and muffins. In making the muffins, one part of wheat flour to five parts of soy bean flour must be used. This is necessary because of the absence of sufficient starch in the soy bean flour to make a bread. This mixture is much better than gluten flour, as it contains about 20 per cent. carbohydrates, while gluten flour contains 60 to 70 per cent.

The conclusion of the above-mentioned authors, based on a study of the use of the soy bean in eight cases of diabetes was, "The soy bean in some way causes a reduction in the percentage and total quantity of sugar passed in diabetic subjects on the usual dietary restrictions.

Silver Jubilee of Carlo Reymond.—The fiftieth anniversary of the connection of Carlo Reymond, professor of ophthalmology, with the medical faculty of the University of Turin, was celebrated by his friends and pupils May 18. A large *Festschrift* was presented to him containing his own collected works and an index of the works published by his assistants under his inspiration, numbering 450. Reymond has been on several international committees appointed to study a uniform standard for visual acuity, and means for prevention of blindness, etc., and he has done pioneer work in various lines, particularly in study of refraction defects.

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EDITORIALS

SOME FALLACIES REGARDING SKIN DISINFECTION, ESPECIALLY BY THE IODIN METHOD

The observations of Tinker and Prince concerning skin disinfection are published in the June number of *Surgery, Gynecology and Obstetrics* and are interesting from both the theoretical and clinical standpoints.

The fact that in the Russo-Japanese war the number of wound infections was reduced to an astonishingly low degree on the part of the Japanese by simply requiring their soldiers to take a full bath and put on clean clothing before going into battle, goes to show that personal cleanliness plays a part of perhaps equal importance to that of clinical skin disinfection. Then, too, in considering our clinical results we must not lose sight of the fact that ordinarily the bacteria brought into a wound by contact with the average dirty object are only mildly virulent because of the environment, unfavorable to bacterial growth, into which they may have been thrown, such as the floor, walls or pavement that afford neither heat, moisture nor culture medium.

Another fallacy lies in the fact that many products do not possess the antiseptic value ascribed to them by their manufacturers. This unreliability may be due to the fact that the operating room affords a very different test than the laboratory: e. g., bichlorid of mercury is readily precipitated by blood-serum or any other organic matter, even that present in some tap-waters being sufficient to attenuate markedly the antiseptic value of the solution.

The most frequent error in methods of skin disinfection, perhaps, is the insufficiency of time given to the procedure. Even after the first scrub in soap and water for a rather protracted time, it will require at least five minutes for the most powerful antiseptics in use to kill spore-forming bacteria, particularly those distributed about and under the nails. Equally condemnatory is the practice of merely dipping or splashing through the antiseptic solution after handling dirty objects, with the conscience for asepsis satisfied.

Not convinced by the recent favorable reports on the efficacy of iodin disinfection, the authors have carried out several test series and have been disappointed to find a contamination group in almost every test made, the iodin failing to kill spore-forming bacteria.

The tests were conducted as follows: A bouillon culture of *Bacillus subtilis* was well rubbed into the skin of the fingers and after allowing six hours for drying, the tincture of iodin was applied. When this was dried into the skin, sterile threads were vigorously drawn across the skin and dropped in bouillon cultures. A second heavy application of the iodin was made thirty minutes after the first and allowed to dry. The sterile thread test was made as before and scrapings made with a sterile scalpel were dropped in the bouillon culture medium, these scrapings doubtless being heavily impregnated with iodin. Growth in the culture was prompt and positive in every case.

The next series of tests consisted in impregnating the skin of the upper arm and fingers with a bouillon culture of *Bacillus subtilis*, protecting these areas by a sterile dressing and keeping them free from water for twenty-four hours, then covering with tincture of iodin over which sterile dressings were placed. One and one-half hours later a second coating of tincture of iodin was applied and covered with a sterile dressing. Scrapings made with a sterile scalpel three hours later, and dropped in bouillon, gave prompt and positive growth in every case. While these experiments may not be conclusive, and although the hyperemia and leukocytosis due to the counterirritant effect of the iodin may favor wound healing, yet enough evidence is afforded by the tests to warrant the belief that in iodin we have not reached the acme of either thorough or short-cut methods of skin disinfection.

Experience having proven that various antiseptics exercise a decidedly different influence on the different varieties of bacteria, it becomes evident that the desideratum is for a method combining the use of several antiseptics which will kill all forms of bacteria. And it is the spore-forming bacteria in particular that must furnish the criteria for antiseptic values.

Of the various combinations at present investigated, Harrington's solution yielded the best experimental and clinical results in the hands of the above-quoted authors. They repeated the *Bacillus subtilis* experiments, replacing the iodin by Harrington's solution. After a three-minute

application, the resulting cultures were negative in every case, and after a two-minute application, during which friction was applied with moistened gauze, cultures proved negative. Indeed, after a one-minute application, cultures were negative in more than half the tests. In hand disinfection five minutes' application of the Harrington solution should be made to allowed of thorough penetration of the subungual and periungual spaces.

Stretton of England reports one death from tetanus in only 300 clean cases prepared with iodin. Hence, the authors conclude that since iodin will not destroy the spore-forming bacteria occasionally present it does not fulfil the requirements for safe preparation of the skin. For the foregoing reasons they are now using Harrington's solution for the patient's skin, applying it with friction for two and one-half minutes and sponging it off with alcohol, and with satisfactory results up to the present time. Some hands do not bear well repeated and long-continued applications of Harrington's solution, and for this reason the authors rely on the old-time prolonged scrub, followed by alcohol cleansing. Laboratory tests have proven this method efficient for all forms of bacterial life.

It is more than possible that the friction used with the Harrington's solution results in the mechanical removal of many superficial epithelial cells and the bacteria lodged among them, just as prolonged scrubbing with soap and water has proven itself to be surprisingly efficient in the realm of asepsis because of the mechanical effect produced.

THE CYTOLOGY OF THE BLOOD IN TUBERCULOSIS

It seems rather remarkable that until comparatively recently but little study has been made of the cellular elements of the blood in tuberculosis. Information on the subject in text-books was scant indeed and consisted of the statements that usually the red cells and hemoglobin were slightly decreased until the terminal stage; that the white cells were either normal or slightly increased, and that a relative lymphocytosis was one of the diagnostic features of the disease, which latter statement is open to serious question.

According to Sahli,[1] the polynuclear cells are usually increased in the chronic form when accompanied by fever and severe inflammatory reaction, but he does not believe that the leukocytosis is dependent on mixed infection. The lymphocytes, eosinophils, red cells and hemoglobin, he says, are often diminished.

Klebs[2] is a little more satisfactory, however, and quotes the work of Ullom and Craig, Stein and Erbmann, Kjer-Peterson and Arneth, the last-named having made a very extensive study of the neutrophile cells. In chronic cases, Arneth considers that, "despite a good temperature and a good general condition, a patient who shows an abnormal blood-picture is far from approaching a cure." Again: "We should regard those cases as the most unfavorable with the most seriously altered blood-picture, and with a normal or nearly normal total number of cells, for in these the production of cells barely keeps pace with their destruction, and is not able to surpass it and produce a leukocytosis. * * * We are, therefore, justified in considering an increase in the total number of white cells as prognostically favorable."

By far the most exhaustive studies made of the blood in tuberculosis art those of Wright and King,[3] although their series comprises only 577 cases, none of which was in the incipient stage.

They (Wright and King), like most authorities on the subject, having found almost uniformly little or no alteration in the red count or hemoglobin percentage except in advanced cases shortly before death, have discontinued making routine red counts and hemoglobin estimations on patients admitted to Las Animas Hospital. The red cells do become pathologic, however, in the way they resist the hemolytic action of 0.35 per cent. salt solution, the hemolytic index proving of distinct value both as a diagnostic and prognostic factor. The lower the hemolytic index the less favorable the prognosis, and this index is found to follow pretty accurately the physical signs and symptoms, especially the lymphocyte percentage of the case at hand. Taking the normal hemolytic index as 1, cases in which it does not fall below 0.5 are regarded as favorable, those not below 0.3 as guardedly favorable, those below 0.3 as unfavorable, the majority of the latter proving fatal in from one to ten weeks.

The platelets are either normal or reduced in number, due to the increased resistance of the red cells. In trying to find the pathologic cause of this resistance, King discovered that the normal red cell is nucleated, which nuclei become the platelets on the destruction and disintegration of the red cells.

Regarding the white count, it would seem that the only change that would result had incipient cases entered into their studies, would have been

1. Diagnostic Methods, 1911, p. 803.

2. Tuberculosis, 1909, pp. 285-291.

3. American Journal Medical Sciences, June, 1911.

a reduction of the average white count. The usual text-book statement that in tuberculosis the white count averages about 13,000 does not convey the very valuable information that in reality the white count steadily increases as the disease progresses, and decreases as the disease improves. These men were also able to show very conclusively from their tables that the various stages of the disease can be, in most cases, quite accurately determined by the white count, thus affording a check to the physical and clinical findings.

Contrary to the usual teaching, the polynuclears were not found reduced nor do the authors believe that these cells possess any phagocytic property in tuberculosis. On the contrary, they maintain that a polynuclear increase means a less favorable prognosis.

The lymphocytes also are not increased, but for several reasons they are thought to be the important phagocytic agents in the disease. Patients admitted with a high lymphocyte count invariably improve more rapidly and consistently than with a low one, and the increase in the lymphocyte percentage is in direct proportion to the clinical improvement; likewise a decline of one accompanying a decline of the other. Given a lymphocyte percentage of 10, the prognosis is bad; 6, probable death in six to ten weeks; 3, death in a comparatively few days.

The eosinophils and large lymphocytes retain a normal count, as a rule.

From their work, the authors arrive at the following conclusions:

"1. In uncomplicated cases of tuberculosis the average number of cells is normal or above, excepting during a short time previous to death.

"2. The hemoglobin percentage averages about 85 per cent., excepting during a short time prior to death.

"3. The red cells exhibit an increased resistance to the hemolytic action of salt solution, this resistance, as a rule, being increased directly as the progress of the disease.

"4. Resistance to hemolysis will probably be found of diagnostic value.

"5. The prognosis becomes less and less favorable as the hemolytic index falls.

"6. The hemolytic index and lymphocyte percentage bear a direct relationship in prognosis.

"7. The total white count increases directly as the disease progresses.

"8. In most instances the stage of the disease, in uncomplicated cases, can be more or less accurately determined by the total white count.

"9. The polymorphonuclear neutrophils have but little if any phagocytic action in the disease.

"10. A high polymorphonuclear percentage makes a bad prognosis.

"11. It is strongly probable that the lymphocytes are markedly phagocytic in tuberculosis.

"12. A high percentage of lymphocytes is a very favorable prognostic index.

"13. The following blood-findings are positive proof of improvement in any given case: (a) Decreasing white count; (b) falling polymorphonuclear percentage; (c) rising hemolytic index; (d) rising lymphocyte percentage.

"14. Blood examinations should be made coincident with every physical examination, otherwise the physician misses most valuable information relative to his patient's condition."

EDITORIAL NOTES

"Has Anybody Here Seen" *Hooper,* of the *Advertisers' Protective Association?* If so, send the answer to *Collier's Weekly* and receive suitable reward. They are looking for him and his constituents.

The passing from office of Health Commissioner W. A. Evans, of Chicago, marks the termination of a régime whose conduct has been marked by as great achievement in the progress of public health as has been noted in modern hygiene. It is seldom that a man is found who can so thoroughly combine the qualities of an efficient health officer with the ability of enlisting public sympathy and cooperation, as has been the case with Dr. Evans. Chicago is fortunate, however, in having found for the place a man who bids fair to as faithful and successful prosecution of the good work—Dr. George B. Young, of the U. S. P. H. and M.-H. S.

Dr. Hurty knows something about the caliber of the average Indiana legislator or otherwise he would not make the remark attributed to him to the effect that the medical quack, referring particularly to the advertising charlatans, will not receive the attention of any Indiana legislature for several decades. It may be that Dr. Hurty had in mind the influence which money has in preventing legislation that is inimical to the quack medicine business. When the advertising quacks and the patent medicine concerns contribute liberally to political campaigns, aside from maintaining a well-organized and influential lobby at the capital, it is quite evident that

it is difficult to accomplish anything in the way of reform in our present methods of tolerating these evils which bring suffering and loss to the public.

During the past few weeks the surgical profession of this country, and of the world, in fact, has suffered a distinct loss in the untimely death of two of the most distinguished surgeons of the East, Drs. Joseph Price and Carl Beck. Both men were well under 60 years of age and their work was by no means done, though both its volume and value had been great. It seems almost the irony of cruel fate that a man with such surgical genius should succcumb to an appendicitis only four hours after an operation which had been performed but four hours after the onset of Dr. Price's illness, and especially cruel does such fact seem when it is recalled that but a few hours previously Dr. Price arose from a sick bed to operate on a little girl whose ailment was that to which her surgeon was soon to fall prey. Dr. Beck's demise after an illness of one week from pneumonia would seem more logical, even though no less sad.

Governor O'Neal of Alabama has vetoed the optometry bill recently passed by the Alabama legislature. He gives some very logical reasons for vetoing the bill, the essence of which is that the practice of optometry is essentially a branch of the practice of medicine, and that no man who has not received a medical education and been specially trained in diseases of the eye is qualified to prescribe for its defects, whether optical or pathological, and the line of demarcation is not so sharply drawn that the two can be separated. Attention is called to the fact that on similar grounds optometry bills have been vetoed by Governor Hughes of New York and Governor Harmon of Ohio. In conclusion Governor O'Neal says: "The eye is too delicate and valuable an organ to be made the subject of any experiment whatsoever, and if there is to be such a science as that of optometry I feel that it is yet too near to its inception to be given the power contemplated in this bill which is returned to you without my approval."

Mr. C. C. Hadley, the president of the Indianapolis Commercial Club, speaking at the Health Officers' School, held at Indianapolis last month, paid a deserving tribute to Dr. Hurty, as well as those who are associated with him in public health work in the State of Indiana. Among other things he said: "Dr. Hurty has been maligned and scoffed at in the halls of our legislature, but by persistent and continued effort he has brought the department up to what it is now, which is only a harbinger of the future. Dr. Hurty has been balked, hindered and belittled by persons high in authority. Through all he has held to his splendid purposes and has clung to his humanitarian dreams with unfailing zeal and tenacity." Mr. Hadley went on to prophecy the creation of a marble and bronze memorial to Dr. Hurty. He urged the health officers to do their duty as exterminators of dirt and filth in our cities and communities. He declared that a town's best advertisements are healthfulness and cleanliness. "I know yours is a thankless task," he said, "and adequate financial compensation is not afforded you; but I am sure you will in the end feel fully paid if you succeed in making Indiana clean."

Another of *Puck's* vivid cartoons on the subject of vivisection appeared in the issue of June 7th, entitled *"Thumbs Down."* In it is depicted the victorious, armor-clad "Death" standing in the arena with sword drawn and the foot of oppression upon the vanquished combatant, "The Sick," lying prostrate, with his weapon broken upon the floor. That the conquest is not a single one is evidenced by a stretcher being borne out the exit to the arena, laden with a former aspirant, but whose battle, alas, had been lost. With its gleam of satisfaction o'erspread, the helmet-covered visage of the hero, Death, is upturned to the amphitheater filled with portly and gaudily bedecked disciples of antivivisection, each harboring a well-kept pet, monkey, puppy, cat or rabbit, and all with down-turned thumbs of oppression directed toward the victim. Over the balustrade of the amphitheater hangs a richly colored emblem in the center of which is the oval insignia indicating the lighted lamp of progress about to be snuffed out by the hand of the antivivisectionists whose name encircles the insignia. A rather unkind but significant resemblance exists between the countenances of the much-fondled pets and their human-formed protectors, with the balance of intelligence rather in favor of the animals. Even the dim-distant guinea-pig "has it on" his keeper "for looks," although there appears some family resemblances. This apparent intellectual superiority of the animals would convey the impression that even they were not unconscious of the benefits that accrue to animals, as well as human beings, by properly-conducted animal experimentation.

The Superintendent of Documents at Washington writes the editor of the *Journal of the*

A. M. A. to the effect that public health bulletins issued by the Government are not sent free to those who ask for them, and he desires that the erroneous impression concerning this matter shall be corrected with a view to preventing disappointment to those who address him on that subject.

Commenting on this subject the editor offers some pertinent remarks in which he says: "It is far more likely that this inference (that the Government bulletins are sent free) comes from the well-known fact that Government bulletins are, to such a large extent, furnished free. The average reader may be excused if he thinks this custom is general in view of the thousands of tons of speeches and political documents which our representatives and senators send without charge on slight provocation to any of their constituents who may be influenced. For instance, a recent dispatch from Washington stated that one senator had shipped two carloads of envelopes, addressed and bearing his frank, to the largest city in his state, where they were to be filled with copies of his speeches and sent postage free to the voters of the state. This enormous mass of literature (?) was distributed for political reasons, and so cost the individual nothing, but will be paid for by the tax payer. The public health pamphlets on the other hand were intended only to save life and reduce sickness, and so could not of course be distributed free to the taxpayer. A price list of these documents can be secured from the Superintendent of Documents. Meanwhile political speeches and garden seeds can be had for the asking as usual."

DEATHS

Dr. John I. Metts, aged 79, died June 28 at his home in Ossian.

Dr. Carl Beck, a prominent surgeon of New York City, died at his summer home, Pelham Heights, N. Y., June 8, from pneumonia, aged 55.

Dr. Joseph Price, one of the most prominent specialists of Philadelphia, died June 6, four hours after an operation for acute suppurative appendicitis, aged 58.

Dr. Robert G. Geary, aged 53, died at his home in Marion, June 13. Dr. Geary came to Marion twelve years ago from Logansport, and established a sanatorium.

Dr. Edwin R. Tevis, of Brooksburg, died suddenly June 30 of uremic poisoning. Dr. Tevis was born in 1858.

NEWS, NOTES AND COMMENTS

Dr. James V. Nelson, Logansport, has been appointed coroner of Cass County.

Dr. T. Victor Keene has qualified as a member of the Indianapolis Board of Health.

Dr. Calvin W. Burket, Warsaw, sustained painful injuries in a fall down stairs, June 7.

Dr. Charles L. Dreese, Goshen, was attacked by an insane patient, May 22, and seriously injured.

Dr. J. W. Stubbs and Mrs. Ione Hutchings, both of Shelbyville, were united in marriage June 29.

Dr. Leida Powers Leasure, Auburn, has been appointed superintendent of schools of DeKalb County.

Dr. William H. Johnson, Indianapolis, who has been seriously ill, is convalescent and has resumed practice.

Dr. Charles Rea, Falmouth, who was recently operated on for the removal of gall-stones, at the Sexton Sanitarium, Rushville, is much improved.

A verdict of $5,000 has been given Dr. Ernest E. Wishard, Noblesville, in his suit for damages against the Central Indiana Railroad Company.

The eleventh annual commencement of the School of Nursing of Hope Hospital was held Monday evening, June 19, at the High School Auditorium, Fort Wayne.

Dr. Nelson J. Shook, Kendallville, fractured his clavicle and was painfully cut about the face and hands by the overturning of his automobile while making a professional call, May 27.

Dr. James A. Mattison, who has been connected with the hospital of the Marion National Military Home for the past nine years, has been

given a splendid promotion, as result of which he will become governor and chief surgeon of the Battle Mountain Sanitarium at Hot Springs, South Dakota, August 1.

The Indianapolis public schools have discarded the individual drinking cups and have placed bubbling fountains in every school building, and the use of sanitary tissue-paper towels is now being tried in place of the old-fashioned roller towel.

Dr. Warren S. King has recently resigned as surgeon at the State Soldiers' Home, Lafayette. Dr. King, whose home is at Greenfield, was a veteran and has been surgeon at the home for three years. He will retire, after forty years in the practice of medicine.

The tuberculosis committee of the Terre Haute Society of Organizing Charity, has opened a tuberculosis colony on the Deming Camp, southwest of the city and on the river. Several shacks are now on the site and other shacks will be erected to accommodate the patients.

Dr. C. S. Evans of Union City retired from the active practice of medicine as related to diseases of the eye, ear, nose and throat, June 1. Dr. F. McK. Ruby has acquired the office equipment of Dr. Evans and will give his attention wholly to diseases of the eye, ear, nose and throat.

Dr. Samuel E. Smith, medical superintendent of the Eastern Indiana Hospital for the Insane, has just completed his twentieth year at the head of the institution. At a recent meeting of the board of trustees of the hospital a resolution was adopted saying: "The Eastern Hospital has been conducted efficiently and economically under Dr. Smith, and he has not only kept abreast of the newest and best methods for the care of the insane in other states, but he has introduced at East Haven many new ideas, the fruit of his own experience and study, that have been accepted and practiced elsewhere greatly to the credit and reputation of this institution and of the state of Indiana."

SOCIETY PROCEEDINGS

INDIANAPOLIS MEDICAL SOCIETY

Meeting of May 23

Society met in regular session. Minutes of previous meeting read and approved. Application of Dr. H. C. Connor was read for the first time.

Dr. Wynn, chairman of the Library Committee, stated that Dr. Mears, of Philadelphia, had been in the habit of contributing $50 per year to pay for subscriptions to certain medical journals on file at the City Library. For some reason the money has not been received this year. Dr. Wynn moved that if Dr. Mears failed to contribute the $50 as usual, the Indianapolis Medical Society bear the expense of continuing the magazine subscriptions. Carried.

The paper of the evening was read by Dr. Sowder, on "Symptoms in Diagnosis of Diseases of the Upper Abdominal Zone Due to Ptosis."

In the discussion Dr. Hugo Pantzer said that chest deformities due to early diseases predispose to ptosis. Symptomatology is confusing unless there is an association with special organs. Corpulent people who become emaciated often suffer from ptosis. Edebohls has called attention to the simulation of appendicitis by nephroptosis. Pendulous abdominal walls predispose to ptosis, in which case ptosis of the liver is frequent. Physical examination locating the seat of the trouble and association of symptoms enable a definite diagnosis to be made.

Dr. A. B. Graham said that radiography was the most valuable agent in the study of ptosis. The *habitus enteroptieus* is usually observed. The stomach can be outlined by the stomach tube and direct inflation. He condemned the method of distending the stomach by the use of tartaric acid and sodium bicarbonate as being dangerous. *X*-ray examination after ingestion of bismuth gives best results. Treatment by mechanical supports not entirely satisfactory. Operation is not advisable in complicated cases.

Dr. Kimberlin said he was disappointed in his attempts to correct conditions of ptosis by use of corsets. Mechanical supports with pads exerting pressure at specific points had been very satisfactory. Palpation of intestines is very difficult and is not definite. There is often a large degree of mobility in extreme ptosis without symptoms.

Dr. Charlton disagreed with Dr. Pantzer's statement that disorders in children are the cause of ptosis. If that were true men would be as frequently affected as women. It is probable that the changes in the development of the female predispose to ptosis. It is a mistake to consider any deviation from what is considered the normal standard as a pathologic condition.

In answer Dr. Pantzer said that the development of the female prevents the formation of firm muscular abdominal walls, as happens in the male, and thus the frequency of ptosis in the female is accounted for. He has had fairly good results in controlling symptoms of ptosis by the use of corsets.

Dr. F. B. Wynn said that the severity of the symptoms were not indications of the degree of ptosis. He reported two cases with remarkable displacements of abdominal organs in which there were no symptoms. Emaciation often precipitates symptoms. Surgery in cases of ptosis without pronounced symptoms is not indicated. Nutrition is a factor in all cases. Neurasthenia often predisposes ptosis and causes the symptoms from emaciation and anemia. Weakened muscular support and loss of fat are primary factors.

Dr. Ross said that the activities of modern women predispose to ptosis. A displacement is not always pathologic. Atypical relations are very frequent and are often normal. Many factors determine the severity of the symptoms from a ptosis. A careful examination and study of the case is necessary to

determine the degree of ptosis and the possibility of referring symptoms to a displacement.

Dr. Voyles said that he had inflated the stomach with tartaric acid and sodium bicarbonate in a large number of cases without any discomfort to the patient. He described a method of outlining the stomach by the introduction of a tube and inflating with a rubber bulb. By placing the stethoscope over the stomach the sound from the click of the valve in the bulb will enable the outline of the stomach to be determined.

Dr. Lee said that individuality determined the symptoms of ptosis. Some cases were cited. The tendency had been to do too much surgery in cases of ptosis. The relationship between ptosis and the symptoms must be determined before surgery will give any benefit.

Dr. Sowder, in closing, said that symptoms in ptosis were variable. A careful study and examination is necessary. Treatment must be general. It is very difficult to locate intestinal loops. Cases of ptosis are not definite and the symptoms can only be determined by repeated examination. The general habit of operating in cases of ptosis is a failure. The various mechanical appliances are good in selected cases.

Next meeting of society voted to be adjourned on account of its coming on Memorial day.

Adjourned. H. R. McKinstray, Secretary.

Meeting of June 6

Meeting called to order by president. Minutes of last meeting read and approved. The following applications were read for the second time; E. W. Gayer, R. J. Kemper, Chas. A. Carter, G. Frank Potts, F. W. Mayer, Homer I. Jones, Geo. W. Lee, Wilbur C. Heskett, Ira H. Jordan and G. P. Christie.

The judicial council reported favorable action on the applications of Samuel J. Copeland, Ord. Everman and Daniel S. Adams. Report accepted.

Dr. J. Rilus Eastman reported a case of Jackson's membranous pericolitis; Dr. C. D. Humes reported a case of septic endocarditis, and Dr. F. R. Charlton reported an unusual experience with salvarsan. Patient, a young man with syphilis of two years' standing, that had been obstinate under treatment. Mucous patches existed in throat and mouth. There were fissures about the angles of the mouth; together with a few scattered superficial skin lesions. Salvarsan was administered intravenously. The usual more or less immediate reaction followed, but twenty-four hours afterward patient was going about and feeling well. He went to bed Saturday night, and knew nothing until Monday morning when he came to the office in a mentally confused state, not being able to recall clearly anything of the preceding day. He was sent back to his room in a hotel when his condition again became worse. He remained in semi-coma but could be aroused. At this time Dr. Neu saw the case. There were no focal symptoms, no interference with reflexes, no loss of power. The pillow of his bed was covered with blood and his tongue was badly bitten. The picture was that of nocturnal epilepsy. His history in this respect was free, nothing of the sort having ever occurred before. He was sent to hospital where under vigorous purgation he had several large and very foul bowel movements. The following morning his condition was normal. The lesions seen thereafter were all healed, his general condition remaining greatly improved at this time. Was this purely a violent toxemia of intestinal origin? Was the epileptic seizure due to the intestinal cause or to the drug? Were the epileptiform attack and the intestinal condition secondary? Might this man have been a victim of nocturnal epilepsy previously, giving him no trouble, this simply being an aggravated attack? Did the salvarsan play a direct part as an arsenic factor or might this same symptom-complex have arisen with some other entirely different agent capable of producing an equal but different character of shock?

Dr. B. Erdman presented a case of abscess following the injection of salvarsan.

In the discussion Dr. Pantzer said he had noticed a membrane about the head of the colon in a number of cases. He has treated such cases by splitting the membrane, which allows its contraction. The removal often is followed by bleeding or other symptoms. He reported a case which made a good recovery by such treatment, and has remained well for three and a half years. He thought Dr. Charlton's case was probably auto-intoxication.

Dr. Kimberlin said that septic endocarditis was usually secondary to simple endocarditis and occurs with remarkable regularity in well-to-do patients. The type may be either typhoidal or meningeal.

Dr. Thurston in discussion of Dr. Humes' case mentioned the fact that blood-cultures were negative. Ordinarily in a virulent infection of such a type a blood-culture would reveal the type of infection.

Dr. Neu, in discussion of Dr. Charlton's case, said that there was a lack of unanimity of opinion concerning nerve symptoms following salvarsan. He thought Dr. Charlton's case was one of auto-intoxication. He reported a case of hemiplegia following salvarsan. He expressed the opinion that hemiplegia was the direct result of the infection independent of the salvarsan.

Dr. Keene said that he had had no symptoms following the injection of salvarsan, except hysteria. He thinks the oil suspension method is the best. The intravenous method precipitates a toxemia. A second dose has been given in a number of cases.

Dr. Eastman said that the lack of symptoms following salvarsan injection by the oil suspension method was probably due to the fact that such a method did not allow the absorption of the salvarsan.

Dr. McCowan reported a case of convulsions following salvarsan, given by the intravenous method, which he attributed to the increased blood-pressure. He said that the oil injections were liable to produce abscesses which he has seen following the injection of mercury in oil suspension.

Dr. Erdman said that the intravenous method of using salvarsan is the best. Ehrlich's wide experience has caused him to favor this method. The nervous symptoms are often psychical. The results from salvarsan given in oil suspension are not so quickly obtained as in the other methods.

Adjourned. H. R. McKinstray, Secretary.

Meeting of June 13

Society met at Turner's Park for the final meeting before the vacation period, at 4 o'clock for a social meeting. Baseball games and other athletic contests were participated in by various members of the society. At 6 o'clock a dinner was served, which was provided by the president, Dr. A. C. Kimberlin, having the society as his guests. After dinner the society met for a short business session.

President Wm. L. Bryan, of Indiana University, was elected to honorary membership. The following were reported favorably by the judicial council and were

elected to the society: R. J. Kemper, Wilbur C. Heskett, J. P. Christie, George Winlock Lee, Homer I. Jones, F. W. Mayer, Charles A. Carter.

Following the business session the program consisted of speeches, a spelling bee and selections rendered by a double quartet. Lantern pictures of various doctors were exhibited.

Adjourned. H. R. McKinstray, Secretary.

HUNTINGTON COUNTY

Meeting of June 7

The regular meeting of the Huntington County Medical Society was held June 7. Dr. J. P. Simonds, of the state laboratory, was present. Many new and interesting phases of the work at the state laboratory were explained.

Dr. W. D. Bonifield, of Warren, read a paper on "The Use of Forceps in Obstetrics." The author stated that the use of forceps is conservative in the treatment of both mother and child.

Dr. F. W. Grayston opened the discussion, and advised the use of deep anesthesia, or no anesthesia when forceps are applied. Was not in favor of partial anesthesia. One member present said he had never used an anesthetic when forceps were applied.

Dr. O. O. Nelson presented a paper on "The Physiology of the Mammary Gland." The author stated that the causes leading to artificial feeding are poverty and poor food of the lower classes, and tight lacing, high heeled shoes and indigestible foods of the well-to-do classes.

Dr. F. B. Morgan opened the discussion by stating that the mental attitude of the mother has much influence upon lactation.

Adjourned. R. Q. Tavixer, Secretary.

Meeting of June 21

The second meeting of the month was held June 21, at Warren.

Dr. Ira E. Perry, of Bippus, presented a paper on "Rheumatism." Discussion.

Dr. Ervin Wright, of Huntington, discussed the subject of "Sciatica." He stated that the condition is a neurosis, caused by exposure to wet or cold, or traumatisms. The treatment advised was relief of pain by opiates, absolute rest, and the use of sodium salicylate in proper dosage.

Dr. W. D. Bonifield, of Warren, opened the discussion by advising the use of deep injections of ether or water upon the nerve.

Dr. C. O. Beehtol, of Marion, reported a case which was diagnosed sciatica for six months or more, but when the patient was unable to urinate and was catheterized, his symptoms disappeared. An enlarged prostate had prevented complete emptying of the bladder.

Adjourned. R. Q. Tavixer, Secretary.

KOSCIUSKO COUNTY

The June meeting was held on the 27th. Case reports were presented by Drs. Hines, DuBois and Bowser.

Dr. W. L. Hines, Warsaw, read a paper on "Obstructed Venous Circulation as Cause of Disease." Dr. F. J. Young, Milford, read a paper entitled "A Consideration of Rabies."

Discussion by Drs. Bowser, Burket, DuBois, Leekrone, Young, Grandy and Howard.

Adjourned. C. Norman Howard, Secretary.

MARSHALL COUNTY

The Marshall County Medical Society met at the office of Dr. C. F. Holtzendorff, June 29. Dr. L. D. Eley was elected delegate to the State Association meeting and Dr. J. W. Eidson, alternate. "The Summer Diseases of Children" formed the topic for discussion.

It was decided to hold no July meeting, but to hold the next meeting August 31.

Dr. H. M. McCracken, of Argos, was elected to membership.

Adjourned. J. W. Eidson, Secretary.

POSEY COUNTY

The Posey County Medical Society met in regular session at New Harmony, May 31. Minutes of previous meeting read and approved. The election of officers resulted as follows: President, J. P. Gibson, Stewartsville; vice-president, H. H. Sugg, Mt. Vernon; secretary-treasurer, J. L. Turman, Cynthiana; delegate, D. C. Ramsey, Mt. Vernon; alternate, J. L. Turman.

Dr. J. C. McClurkin gave an interesting talk on the subject "Ectopic Gestation," presenting several specimens.

Dr. W. R. Davidson, of Evansville, gave a talk commenting on the value of laboratory methods as diagnostic aids. The sphygmomanometer, hypobromite test for quantitative estimation of urea, microscopic examination of urine sediment are tests too valuable to be neglected. The use of antiformine in preparing sputum for staining tubercle bacilli is a great aid in finding bacilli that may have eluded detection by ordinary methods. Blood counting was also urged.

Dr. Gibson exhibited a patient cured of chronic empyema of three years' duration by means of bismuth paste. Two operations had been performed previously, first incision and drainage followed by rib resection. Three months after the bismuth paste was first used patient recovered. X-ray photographs illustrated size and extent of the lesion.

Dr. C. L. Rawlings read a paper entitled "Back to the Pharmacopeia." It dealt with the work of the Council on Pharmacy and Chemistry, and lamented that physicians were to blame for the extensive fraud in proprietaries.

Adjourned. C. L. Rawlings, Secretary.

ST. JOSEPH COUNTY

Meeting of June 5

The St. Joseph County Medical Society met in regular session June 5. Minutes of previous meeting read and approved.

Dr. Kilmer reported an unusual case of typhoid fever resulting in death in a boy of thirteen. May 20 patient came to office complaining of not feeling well; poor appetite; malaise. May 23 came to office presenting an eruption on face, in front of ears; rash well defined, elevated and colorless; none on body; physical condition same as before. May 24, rash red and some on body; temperature 102.5. May 25, temperature 102.5; rash fading; physical condition good. May 26, rash gone; tenderness and rumbling in iliac fossa. May 29, temperature 102.5. Sent to hospital; delirious. May 30, temperature 105.8 per rectum. No tympanites; tongue brown; pulse 112-136; delirious at all times but could be aroused; no rash; no serious bowel symp-

toms, but had diarrhea; no hemorrhages; nose bleed. No Widal test was made.

Adjourned. R. C. SHANKIN, Secretary.

Meeting of June 12

Society met in regular session June 12. Minutes of previous meeting read and approved.

Dr. C. E. Varier reported a case of leprosy which he saw in Ann Arbor last year. Man, aged 42, Finlander, in good physical condition, weighing 180 pounds. Family history negative. Married and has three children. Wife and children are well and not infected. Four years ago was in Alaska herding reindeer and was ill one month with chills and fever, but does not know what was wrong with him at that time. The man had presented himself for a life insurance examination, with a few nodules on the hands and face. The hands felt numb and he could not distinguish heat and cold. Nodules were excised and found to be teeming with leprosy bacilli. Slides and photographs were shown. The case has made very little progress up to the present time.

Discussion by Drs. Bosenbury, Shanklin, Wegner, J. A. Varier, and closed by C. E. Varier.

Dr. Shanklin made motion that the society adjourn until the second Monday in September. Carried.

Committee of five appointed to arrange for special annual meeting to be held in November.

Society voted to apply for a new charter; as old one has been lost.

Adjourned. R. C. SHANKLIN, Secretary.

SPENCER COUNTY

The Spencer County Medical Society met in regular session at Rockport, June 22. Minutes of last meeting read and approved.

Dr. H. Q. White presented the opening paper on "Injuries to the Pelvic Floor." The author said that such injuries were due to large head, peculiar presentation, too sharp curve of vagina or too straight sacrum.

Dr. H. G. Weiss suggested that repair be done at once, as sepsis is less liable. No denudation of tissue required. Use silkworm gut or catgut instead of silk, thus largely preventing trouble from sepsis.

Injuries to cervix was discussed, but it was thought that Nature would look after this, and that it is not necessary to repair at once.

Adjourned. H. Q. WHITE, Secretary.

BOOK REVIEWS

GOLDEN RULES OF DIAGNOSIS AND TREATMENT OF DISEASES. Aphorisms, Observations, and Precepts on the Method of Examination and Diagnosis of Diseases, with Practical Rules for Proper Remedial Procedure. By Henry A. Cables, B.S., M.D., pp. 298. C. V. Mosby Company, St. Louis, 1911. Cloth, $2.50.

The author briefly mentions the important characteristic signs and symptoms of the more common diseases. The treatment of each disease is then taken up in as concise and thorough manner as is possible in a volume of this size. Considerable space is devoted to medicinal treatment, and dietetic and hygienic therapeutic measures are not neglected. There is much good advice in a small space.

PUBLIC HYGIENE. By Thos. S. Blair, M.D., Neurologist, Harrisburg, Pa., Hospital, Author of "A Practitioner's Handbook of Materia Medica," etc., Assisted by Numerous Contributors. In two volumes, 8 vo., pp. 644, with 158 illustrations. Cloth. Price, $10.00 per set. Published by Richard G. Badger, The Gorham Press, Boston, 1911.

Believing that public health has developed too much as a specialty and that the whole medical profession must unite in tempering conclusions, the author has undertaken the edition of a work for the general practitioner that will inform him not only upon the pathological and clinical, but also the sociologic, legal and engineering aspects of the work.

Due recognition for the aid given the profession by the great American public in the field of public health is offered and the necessity for the establishment of a national department of public health is touched upon.

The work is broad in its scope, deals with phases of the work that interest both the lay and professional man and contains much useful information that is not found in the ordinary text-book on hygiene.

A few typographical errors unfortunately find place in the table of contents, but otherwise the printers' work has been well done. Larger type would have been welcome.

PROGRESSIVE MEDICINE. A quarterly digest of advances, discoveries and improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., Prof. of Therapeutics and Materia Medica in the Jefferson Medical College, assisted by L. F. Appleman, M.D., Instructor in Therapeutics Jefferson Medical College, Philadelphia. June 1, 1911. Lea & Febiger, Philadelphia and New York. Pp. 397. Paper. Price $6.00 per annum.

This number is made up of discussions on hernia, by Coley; surgery of the abdomen, exclusive of hernia, by Gerster; gynecology, by Clarke; diseases of the blood, diathetic and metabolic diseases, diseases of the thyroid gland, nutrition, and the lymphatic system, by Stengel; and ophthalmology, by Jackson. Among the more detailed discussions are those on the use of linen and silver wire in the cure of hernia, by Coley; the use of the Roentgen ray in the diagnosis of abdominal lesions, by Gerster, and heredity of cancer, by Clarke.

INEBRIETY. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment, and the Medico-Legal Relations. By T. D. Crothers, M.D., Supt. Walnut Lodge Hospital, Hartford, Conn., Editor of the Journal of Inebriety, etc. Cloth, pp. 365. Harvey Publishing Co., Cincinnati, O. 1911.

In this work, Dr. Crothers has very forcefully emphasized the fact that inebriety is a distinct, clinical entity with a very definite, demonstrable pathology, exerting its influence on the body tissues as well as the mind of the patient. From data obtained concerning the causes and conditions preceding and following inebriety, uniform laws of origin, growth and development are deduced and a rational therapy suggested. Throughout the work one is impressed with the necessity for careful and long-continued observation and study upon the part of the physician toward these unfortunate individuals and the valuable line of therapy suggested offers considerable hope for the ultimate cure of what is often despaired of as a chronic and incurable state.

The paper and print are excellent but a few typographical errors were noted.

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ORIGINAL ARTICLES

ACUTE ANTERIOR POLIOMYELITIS, WITH REPORT OF CASE*

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CAMDEN, IND.

Acute anterior poliomyelitis—infantile paralysis—or the so-called new and much-talked-about disease of children and young adults, is an acute, believed-to-be, and probably is, a specific infectious disease of children and younger adults, characterized clinically by fever ranging from 101 to 103 F., which may or may not have been preceded by a chill, restlessness, nervousness, anorexia, sometimes vomiting and general malaise of a few hours' or days' duration, which in turn is quickly and suddenly followed by a rapid atrophic paralysis of various skeletal muscles, usually those of the limbs, but occasionally of the head and trunk as well. This paralysis as a rule attains its maximum in a few hours and tends toward recovery in some parts and to the production of permanent disabilities and deformities in others. Anatomically, the disease is characterized by a confluent or discrete inflammation of the gray matter of the spinal cord and brain stem, with resulting destruction of the nerve cells, consequent degeneration of their axial cylinders in the anterior horns of the cord with resulting atrophy of the corresponding muscles.

While we regard it as a new disease, and to us it is, yet it has been discussed in medical literature more or less for the past sixty years, Heine, in 1840, being one of the first to observe and recognize that the spinal cord was the seat of the lesion.

As already stated, it is supposed to be due to a specific germ, but bacteriologists have as yet been unable to isolate it, though they have succeeded in producing a similar disease in lower animals.

While yet in its infancy as to the ravages produced by, and knowledge available concerning it, yet it is a disease which is pretty generally distributed, it being known on every continent and in every clime, but North America and Scandinavia are infested with it more severely than are the southern latitudes.

The name "Infantile Paralysis" is a misnomer and should be discarded from medical literature, because it conveys the idea that it is strictly a disease of infancy. While probably 75 per cent. of all cases occur before the fifth year, yet some cases are found in adults of 30 and even 40 years of age, after which latter age it is practically unknown.

Under 5 years of age the disease is about evenly divided between the sexes, after that age males seem to be more susceptible than females.

Medical literature reveals the fact that as a rule it is more prevalent during the hot summer months, but our recent experience with it here in Indiana found it in the late fall and early winter.

As previously stated, the disease is usually ushered in by a chill followed by anorexia, vomiting and a fever ranging from 101 to 103 F. The patient may or may not have had one or more convulsions. The child usually gives a history of having been previously healthy until the onset of the above symptoms. He is restless, nervous and irritable, complains of soreness on being handled, or if too young for this, exhibits it by his actions. After two or three days he will have lost the power to use one or both lower limbs and cannot longer stand or walk: a few hours more

* Read before the Carroll County Medical Society on May 12, 1911.

and the arms are paralyzed; after two or three days the constitutional disturbance will have passed away, the arms, one or both, will have begun to regain their power and one lower limb will have been partly at least restored to use. By the end of ten days or two weeks, in a medium case, the arms and one limb should functionate fairly well, though the muscles will be more or less flabby and flaccid, the deep reflexes will be absent though cutaneous sensibility will be intact everywhere, the helpless lower limb will be colder than its fellow and the skin will be mottled.

Repair should begin in favorable cases by the end of the third week and continue gradually for a year or eighteen months from the onset. It is during this period that we are able to determine the amount of permanent injury. Whatever disability or deformity remains at the end of this time will in all probability be permanent.

Personally, I have treated but one case, that I could surely designate as anterior poliomyelitis. This was a child, a little girl 2 years old. When brought to the office she seemed to be suffering from an acute attack of indigestion; she was restless, irritable and nervous, had been vomiting some and refused food; her tongue was furred, breath foul, bowels constipated and she had a temperature of 103.4 F. I prescribed 1/10 grain of calomel each hour for eight hours, gave some bismuth sub-carbonate and acacia in powder form for the vomiting and phenacetin for the fever. Next morning the child seemed better. The bowels had evacuated thoroughly and fever was less, 101.6 F. But the child was still restless and cried on being handled or moved. I prescribed a mild bromid and passiflora mixture for the nervousness and the next day she was more restful, but the soreness in the muscles was on the increase. Next day, the third, the child seemed brighter, but had lost entirely the use of the right lower limb and had but partial use of the left. It remained in this condition for about a week, when the left limb began to improve, though the right was still useless. In two weeks the right limb began to restore function, and in two months the child could begin to walk some after a chair. In three months she walked fairly well alone. At the present time, seven months from the onset, she walks very well, but the foot rotates outward. How much of this will be overcome and how much will remain permanent remains to be seen during the coming ten to eleven months.

As to diagnosis, this disease must be differentiated from the pseudo-paralysis produced by scurvy, rickets, syphilitic-epiphysitis, osteomyelitis, rheumatic fever, multiple peripheral neuritis, meningitis and Landry's paralysis. The first five of these may be eliminated by inspection of the affected parts and by getting the history of the case. Peripheral neuritis is more gradual in its onset and is usually preceded by one of the infectious diseases; the paralysis is more symmetrical than in poliomyelitis. A meningitis, as a rule, produces more severe constitutional symptoms which continue, while in poliomyelitis these symptoms begin to clear up by the third to fourth day but are quickly followed by flaccid palsy, which confirms the diagnosis and at the same time dispels the possibility of meningitis, unless it follows as a later complication. The comparative rarity of poliomyelitis in the adult is usually sufficient to differentiate it from Landry's paralysis.

The prognosis as to life is good, providing the patient survives the first three or four days without grave respiratory difficulty; as to permanent and perfect recovery, the prognosis must be more guarded. This will depend on the severity of the attack and the resistance of the patient and cannot be accurately determined under a year or eighteen months. During this period the electrical reactions must needs be our guide in basing an opinion.

Having as yet been unable to determine the causative agent, we are at sea as to any specific treatment, and symptomatic treatment, during the acute stage, is, at present, the best we can command. The patient should be put to bed, placed on a fever diet—light, nourishing, liquid and digestible—a mild calomel purge given, followed by a saline if necessary, phenacetin in sufficient dosage for the fever, and mild bromid solution as indicated for the nervous condition. The salicylates have been recommended for the pain and to promote diaphoresis. Ergot has also been advocated by some; a mild diuretic like potassium acetate or citrate in infusion of digitalis or Basham's mixture should be given if the kidneys are sluggish. The catheter should be used if necessary and the lungs must be watched for bronchial or pulmonary complications.

The application of heat or cold has little or no effect, although it is recommended by some and as heartily condemned by others.

After the first three weeks drug therapy plays but a small rôle, except along the lines of general tonics, among which are iron, arsenic and strychnia; iron administered as Basham's mixture freshly prepared is probably the best and most effective; arsenic in the form of Fowler's solution. The latter I have used with better results than any other single drug.

Mechanical therapy and electricity are now all that remain to assist nature in the recovery of the damaged parts. Passive movements of the paralyzed limbs should be performed two or three times daily and changes in position enforced for the purpose of preventing contractures. The patient should be encouraged to attempt movements of paralyzed parts every day; this in adults is easily done, but with children is more difficult. The attachment of a bell or rattle to the paralyzed limb is said to be a helpful device.

The paralyzed limbs should be warmly clad with woolen garments and massaged daily, thus helping the affected muscles to contract and to retain their contractile power while innervation is being restored. To this latter end, the galvanic current is helpful, the negative pole being used as the mobile electrode. These treatments should be continued to and through the eighteenth month, after which they will be of little or no avail. Whatever repair is at this time not accomplished will now come outside the scope of general medicine and within the realm of surgery, either orthopedic or operative; orthopedic in the application of mechanical devices to assist the child in walking, operative in the form of tenotomies for the purpose of putting a limb or part of the limb into a more advantageous position, or by the grafting of portions of a healthy muscle into the tendon of a paralyzed one. Nerve grafting has been advocated by some as worthy of a trial; however, it is not sufficiently endorsed by clinical experience to be recommended as routine treatment; in other words, the results are questionable.

THE STUDY OF DISEASES OF CHILDREN *

G. W. Finley, M.D.
BRAZIL, IND.

Pedology, or pediatrics, is not a specialty such as ophthalmology or otology, which concern themselves with single organs only, but is that part of general medicine and surgery which cannot be measured by the knowledge obtained from the study of the adult alone. It does, however, require special study and research to become scientific and most practical.

There is no uniformity of structure and function in the human organism from conception to death. Therefore, childhood must be studied, not from the standpoint of reproduction alone, but from that of reproduction and growth. Thus, pediatrics does not deal with miniature men and women, with the same classes of diseases in smaller bodies and simply reduced doses of drugs for their treatment. It has its own independent range and horizon, and gives as much to general medicine as it receives from it. There are anomalies and diseases found in the infant and child only; and, on the other hand those found mostly in children, or, with a course and history peculiar to that period of life, and which are influenced by variety of anatomical structure of affected organism, or by difference in degree of irritability of nervous system, as compared with that of the adult.

Early life may constitute two periods, infancy and childhood: first, from birth to completion of dentition up to two or two and a half years; second, from this point up to establishment of puberty—about 13 years in town- and 15 years in country-bred children.

Clinical investigation of disease among infants is beset with certain difficulties which the student and practitioner must be prepared to overcome. Absence of speech deprives us of important assistance of correctly-described subjective symptoms, but as a compensation for this loss we have the fact that these patients will never exaggerate or misrepresent as some adults will more or less unconsciously do. We do not learn from them so many things that are not so! The wilfulness, the dislikes, fear and agitation of a half-sick child are impediments which often tax the skill and patience to the utmost while attempting to make a thorough first examination. Another difficulty lies in the activity of growth and development in infants which renders them liable to be affected by slight causes, and makes acute infantile disease sudden in its attack, short in its course and intense in its symptoms. Finally, the extreme excitability of the nervous system of healthy children may cause a trifling illness to assume an aspect of the greatest gravity; while on the other hand, the depression of nervous sensibility which attends chronic wasting diseases so obscures some of the symptoms that a dangerous intercurrent affection may easily be overlooked.

Offsetting these difficulties, however, we must remember that disease in the child is usually uncomplicated, rarely has its course modified by tissue lesions resulting from previous illness and never by vicious habits, such as the abuse of stimulants and narcotics. Correct diagnosis is also greatly aided by the ease with which the physical inspection and examination of the whole

* Read before the Fifth District Medical Society, May 18, 1911, at Terre Haute, Ind.

body can be made. When investigating a new case of illness in a young child it is well to use a rather routine plan to avoid overlooking any essential features. First, get a brief outline of the child's life up to this time from attendant nurses or mother. Next, and still more important in most cases, is the general inspection of the little patient. Valuable information can be obtained by simply looking at a sick child and listening to its cry. Many facts can be learned by observing the little one lying asleep, and this part of the examination is never complete without a careful inspection of the naked body. Points thus ascertained may well be termed the features of disease.

The face of a healthy sleeping babe wears an expression of perfect repose. The picture is altered by the onset of physical illness. Pain sets its mark on the countenance, and we can often detect the immediate seat of distress by observing carefully these features. Thus, contraction of the brows denotes pain in the head; sharpness of nostrils, pain in the chest; and drawing of the upper lip, pain in the abdomen. A short rule would be: upper third of face modified unpleasantly by affections connected with brain, middle third by those of chest and lower third by those of abdominal viscera. Puffiness of eye-lids and bridge of nose are dropsical pointers and should direct attention to the kidneys.

A marked disfigurement of face may indicate one of several diseases, according to its character. Broadness or complete flatness of nose signifies constitutional syphilis. Large, square head and projecting forehead, with proportionately small face, show that the child has suffered from rickets. An immense globular head with smaller face and eyelids projected downward show hydrocephalus.

Certain positions and gestures are equally significant. Sleeping with head thrown back and mouth open suggests adenoids, or hypertrophied tonsils, or both; "sleeping high," that is, with head and shoulders elevated, points to impaired cardiac and pulmonary functions, while "sleeping cool," or resting only after all bedclothing has been kicked off, is said to be an early sign of rickets. Persistent lying on the face is evidence of photophobia; frequent carrying of the hand to head, ear or mouth may mean headache, earache or pains of dentition, while constant rubbing of nose is one of the evidences of gastro-intestinal irritation.

Lividity of eye-lids and lips is a sign of imperfect aeration of the blood, due to carbonic acid gas in illy-ventilated apartments, or to heart and lung weakness. A waxy pallor is seen in renal disease, and simple paleness in all conditions of exhaustive anemia. Brownish-yellow color on forehead signifies an inherited specific disease, and a bright circumscribed flush on cheeks, inflammation of lung tissue or gastro-intestinal catarrh, according to temperature.

It is in the method and findings by physical examination, however, that the most radical differences in diagnosing disease in children as compared with same in adults are seen most markedly. The object being to elicit the necessary and accurate information with the least practicable disturbance (because disturbance alters the character of information obtained), it is found best to change the usual order of examination pursued in adult cases, and leave the most disturbing features till the very last. First, if possible, gain the confidence of the little patient by a short interview, or during inspection; then use the gentlest certain means to learn the character of respiration and heart action, and of abdominal conditions, then last of all, make thorough examination of mouth and throat.

With this brief outline of methods of general diagnosis, I shall not attempt an account of differential diagnosis of any individual diseases, nor their treatment at this time. In regard to therapeutics in pedology, it is my opinion, from thirty years' observation, that infants do not so often, as many anxious parents seem to think, require very vigorous treatment with powerful drugs. Proper feeding, hygiene and judicious enemata are most often the essential features in the management of disease among infants and older children.

All active drug medication must be given with great caution to young children, but opium requires the greatest circumspection. Infants can bear it in infinitesimal doses only during the first six weeks of life unless the mother has taken narcotics freely during gestation; 1/32 minim tinct. opii should be the initial or trial dose. After the second or third month has past, however, this extreme susceptibility to the drug disappears, ¼ minim may be given, and repeated if need be, after a few hours. The bromids in all forms are prone to disagree with infants, and if continued long, even in small doses, will often produce severe local inflammation of the skin and localized patches of warty growths.

Belladonna and arsenic are two examples of the opposite contrast, as to tolerance and dosage compared with their use in adults. At least it

is found that the ratio of decreased dosage according to age cannot be adhered to as in the use of most other active drugs. They require for constitutional effects proportionately larger doses than would figure out by Young's or other standard rules for determining dosage, provided these drugs are indicated at all. A few years ago I was criticized quite sharply in a meeting of the Esculapian Society of the Wabash Valley for advocating the use of belladonna, or its alkaloid, atropin, in dosage of 1/500 gr. repeated for effect in the choleraic form of dysentery in children 2 to 5 years of age. After I had adduced some authorities, however, and proved a series of successful cases in which I had prescribed this remedy, the criticism of overdosage was withdrawn and acknowledgement made that Young's rule does not strictly apply with this drug. Belladonna may, if needed urgently, be safely given to brunette children in slightly larger doses than to blondes.

In the very important matter of preventing meddlesome medication and injudicious feeding of infants by volunteer nurses and other officious old women who insist on "doing something" for the little things, the rule is that the more densely ignorant these meddlers, the more they will insist on doing, and the medical adviser must put mother and nurse on guard against this imminent danger in many communities.

The habit of dosing infants with cordials, soothing syrups, whiskey and all such narcotics, cannot be too strongly condemned. Mothers must be impressed with the fact that if baby really needs any actual medication it must be so chosen as to meet the immediate indication without the risk of disaster to the delicate organism, nor the formation of a drug habit. Rightly instructed in regard to these dangers, and on the other hand, in the life-long benefits of the sensible, safe and sane plan of the simple, cleanly and quiet management of the period of infancy, they will gladly cooperate with us in preventing much unnecessary illness among the young, and at the same time give us the better opportunity to successfully treat and promptly relieve acute attacks of unavoidable disease. It certainly is a great source of gratification to the pediatrician to have the intelligent appreciation of his work by parents, nurses and teachers, and we ought on all proper occasions to remind them of that fact. Here we might suggest the great opening field of preventive medicine in the possibilities of thoroughly-conducted school inspection, but that is another story.

EXSTROPHY OF THE BLADDER

B. Van Sweringen, M.D.
Ft. Wayne, Ind.

The literature on the subject of exstrophy of the bladder is as yet very meagre.

Satisfactory descriptions of the defect are few. Indeed, a tedious search has resulted in the discovery of no complete account of the condition nor the methods of relief. References can be found alluding to or describing briefly some particular procedure based on, at most, a very limited number of cases and some of them outlining the technic adopted in but one case. It falls to the lot of but few surgeons to operate a sufficient number to speak with authority on the best method to adopt in a given case.

Anyone who has knowledge of this terrible affliction must realize how the sufferer prays for relief, or that failing, for death. The odor of decomposing urine about such an one makes of him not only an object of disgust to others but to himself as well, for, be he as careful as he may, he cannot escape it. It is with him constantly night and day. There is no satisfactory apparatus as yet contrived to catch this urine which continually drips from him and wets his clothes. He cannot acquire an education in the public schools on account of it. As a rule he grows up in comparative solitude and ignorance until old enough to appreciate the cause of his physical and social condition when he demands that an attempt be made to better his condition.

Males are the subject of this deformity in 80 to 90 per cent. of the cases. It is thought to be due to faulty development at a very early period of fetal life, probably in connection with abnormalities of the allantois and of the cloacal region of the embryo. The explanations of the condition which have a mechanical basis, as over-distention of the allantois or unusual shortness or location of the umbilical cord, are entirely inadequate to account for malformations which often so profoundly affect the entire lower segment of the anterior body-wall and the associated organs.

In well-marked cases the anterior bladder wall is entirely absent and the intra-abdominal pressure pushes the posterior bladder wall out through the deficient abdominal wall so that inspection shows at once a large red mass which constantly drips urine and from the chronic inflammation, which is always present, bleeds easily. It is tender, and the position assumed in walking (bending forward) is largely due to the effort to keep the clothes from rubbing. The

mouths of the ureters can be seen usually toward the outer lower edges of the red mass.

This is not the only defect. The recti muscles usually begin to separate about midway between xiphoid and pubis and diverge steadily to Poupart's ligament, forming an inverted V.

There are frequently found inguinal hernias on one or both sides, and the testes may not be descended.

The symphysis pubis is often absent. The pubic bones, as in the case here reported, may be found separated widely.

Epispadius is also frequently associated either complete or incomplete.

In addition to these congenital defects the chronic inflammation of the exposed bladder wall is very likely to produce ureteritis, pyelitis and pyelonephritis.

The treatment of this condition must aim, in the first place, to establish some means of control over the urine. Plastic operations designed to close in the bladder are all failures from this standpoint, for no one has as yet been able to supply a sphincter of the bladder and give the patient control. It needs usually a number of careful plastic operations to create a bladder and those which utilize the skin of the abdomen or scrotum for that purpose are open to the further objection that phosphatic deposits occur around the hairs which continue to grow on the inverted skin. This necessitates their removal. When the bladder is finally successfully enclosed a rubber urinal must be worn as in other forms of incontinence and the patient is very little better off than before operation was attempted.

For these reasons utilization of the rectal sphincter as a bladder sphincter was tried and the ureters were implanted separately into the sigmoid or rectum.

Many of the early operations were failures because of imperfect technic. Peritonitis from leakage or soiling at the time of operation occurred frequently. Those who escaped this accident developed early a serious pyelonephritis which finally proved fatal. Then Maydl conceived the idea of retaining the natural valve-like opening of the ureters into the bladder, which would tend to prevent the ready access of colon bacilli into the ureteral openings, by implanting the whole trigone into the sigmoid. This seems to have succeeded better than any other operation yet devised in relieving sufferers from this defect.

There have been many ingenious modifications of it, such as converting the cecum into a bladder and using the appendix for an outlet through the abdominal wall, first making an anastamosis between the ileum and ascending colon before implanting the ureters in the cecum. This necessitates catheterizing the appendix and also the opening is hard to keep patulous. This latter is one of the main objections to such operations as Watson's, where the ureters are brought out through the back and the patient fitted with his device for collecting the urine. This operation, however, was only done to allow of complete removal of the bladder for malignant disease.

Werelius advocates anastamosing the ureter and tube and has done it on dogs successfully arguing that in exstrophy cases the urine would be more easily collected. It does not seem to me that this offers much advantage, for there is no control acquired by this method, and then, too, 80 per cent. of the exstrophy cases are males.

The case I wish to report was in the person of a 13-year-old boy whose bladder was extroverted, who had a wide diastasis of the recti and separation of the pubic bones and complete epispadius as well. The testicles occupied the scrotum but there was a double hernia which was not constantly down, although no truss was worn.

He had grown old enough to realize his condition and the dangers of operation, notwithstanding which he demanded an attempt to better his condition.

Accordingly, he was taken to the Lutheran Hospital, where the bladder was dissected up until connected only by the ureters. It was then trimmed down until only an oval piece remained 2 inches wide by 1 inch long into which the ureters emptied. The ureters were then clamped by rubber-covered clamps and the peritoneum opened. A portion of the sigmoid which presented was opened down the anterior white line sufficiently to allow of the insertion of the piece of bladder wall, which was sewed in with catgut and the line of union reinforced by silk on the outside, the technic being the same as that pursued in gastro-enterostomy.

It was then found that there was too much tension on the ureters when the sigmoid was allowed to drop back. To remedy this the peritoneum was incised posteriorly until the tension on the ureters was relieved.

All incisions were then closed and the open space left by dissecting off the bladder wall was allowed to granulate.

The boy was put to bed with a rectal tube inserted so that there would be no accumulation of urine in the rectum which might exert undue tension on the stitches.

His pulse was very rapid at first but gradually came down and he had no untoward symptoms

until the tenth day when a rise in temperature caused us to suspect the integrity of the union in the sigmoid, but this gradually fell to normal and no further untoward symptoms arose.

The operation was done on the 29th of November and the granulating area is now no larger than a quarter.

He had some accidents at first but is now able to hold his urine four or five hours at a time and has retained it as long as eight hours.

Nothing was done to overcome the diastasis, separation of the pubic bones or epispadius. It is the intention to do this later if the patient so desires.

His mother reports that the boy's disposition has entirely changed. Instead of shunning society, he now courts it and is being tutored so that he can take his proper place in school.

On Jan. 27, 1911, I obtained a specimen of urine passed from the bowel and was interested to know the result of the analysis. In appearance it was no more cloudy than many specimens which have passed through the male urethra.

Dr. B. W. Rhamy reported as follows: Sp. gr. 1.014. Albumin present by Heller's test showing 4/5 of 1 per cent. by centrifuge. There were 12° of alkalinity. No sugar reaction. The skatol test was positive. The sediment showed some pus cells and pavement epithelium but no casts of any description.

The patient was put on urotropin several days before operation and has been taking it continuously since, save for intermissions of a few days at times.

THE DOCTOR IN POLITICS *

W. H. Stemm, M.D.
NORTH VERNON, IND.

Since the creation of the world there have been leaders, both natural and acquired, among men; men who, by superior intellect, personality, and sometimes by brute force, have been able to accomplish their ends in the civic affairs of the state and nation, while the ordinary individual must quietly submit to this domination or make such feeble resistance as he is capable.

No man, be he prince or peasant, priest or layman, who has the welfare of his community, his state and his country at heart, can sit idly and take no interest in the personnel of the men who are elected to enact laws that make for the weal or woe of the balance of citizens, or to assist in selecting men, good and true, to positions of trust and responsibility.

Such a man, in the language of a distinguished statesman, is an "undesirable citizen," from the fact that his lack of good citizenship is omission rather than commission, both, in my opinion, equally reprehensible, as it gives the "grafter," and the man in politics for "revenue only" the opportunity he desires.

Until recent years the physician has made his influence felt in civic affairs but to a very slight degree. And so slight has this been that his efforts have been those of an individual, rather than a representative of a great and noble profession; and, unfortunately, his success has been the cause of jealousy and disparagement among his less ambitious and energetic professional colleagues, so that any efforts he might put forth in their behalf have more often been futile than beneficial. His activity is confined to criticism of the opposite party, content to accept a small appointment with less remuneration, where neither influence nor political power is attained.

This inactivity has resulted in various laws giving legal sanction to all sorts of commercial enterprises masquerading under the guise of systems of medicine.

It is not the drones and laggards, the failures and disgruntled ones of the medical profession, who enter and are successful in politics, but rather the men who *do things*. Men who can show to their clientel brain capacity, before they can hope to be trusted with other affairs than the narrow rut of their professional lives; when he can arrive at that point in his career, then the physician can step into the limelight of political life; he must shed the white robes of peace and contentment; he must put on an armor that will turn the shafts of malice, envy, ridicule, criticism; woe be unto him if a weak spot is found in that armor; like Achilles, with the unguarded heel, his political death knell will soon be sounded, and his first step in politics will be his last.

Should he successfully pass the inspection, his armor ring true, without spot or blemish, with a clear conscience, he can press forward to greater political preferment.

How often do we hear this expression—and I am sorry to say it is first used in our own profession: "He is neglecting his business and paying too much attention to politics." The unjust critic forgets that politics is only a side line, so to speak; that this diversion makes a broader-minded man, sharpens his intellect, making a better physician. As proof of this I cite you to the masters of our profession, who have sat in

* Response to toast at banquet Fourth District Medical Society, Greensburg, Ind., May 25, 1911.

the legislative halls of their countries, while leading busy professional lives, the results of their scientific labors astonishing the world. This puerile condemnation is never heard of the merchant, the lawyer, or any other citizen; why should the physician of all men be singled out for this invidious distinction? Echo answereth not.

Doctors are a timid lot when anything seemingly threatens to diminish their practice; this fear of losing a quarter, that the other fellow may get were they not "Johnny on the spot," keeps the great bulk of the profession from participating in politics. He will suffer legal hardships and ignominy rather than offend his families of opposite political belief; when in fact those same patients are the first to respect and admire a strong personality in their medical attendant; realizing that such men are fully abreast of all live questions of the day, professional and otherwise.

The doctor, being in politics, what can he accomplish? It will necessarily take more or less of his time; but, usually having arrived at that period of life when every man expects and hopes to do less and better work, to receive greater compensation for the same, this is no handicap to his vocation.

From the fact that he comes into more intimate contact with the home life, the influence of the doctor in politics, is vastly greater than the ordinary politician. Hence, if he shows the proper capacity, it is almost impossible to counteract his influence over delegates and conventions. When the doctor in politics aspires to an office, his opponent (unless "another doctor in politics") recognizes that he has a very difficult task to defeat the "doctor in politics." His training, his calling, his social standing and the obligations his patrons owe him, all contribute to his success.

He has the satisfaction of knowing that the quack and charlatan cannot control influence in high places that he is able to reach. "The doctor in politics" has a voice for or against legislation, and is listened to with consideration.

"The doctor in politics" is urging legislation for the betterment of mankind, while his timid brother is complaining of the sins and short-comings of his competitor. He was the chief factor in raising the standard of medical education by legislative enactment, the pure food and drug law, the quarantine and sanitary laws. He is always on the affirmative side of moral questions, his influence being all powerful. He is known far beyond the confines of his practice and neighborhood.

"The doctor in politics" is always in his seat when the gavel falls in medical society meetings, ready to do battle against foes within and without the organization, or resist anything that affects the welfare of his beloved profession. Meeting honest criticism in a spirit of fairness, willing to profit thereby, he has no use for the man with a hammer, "the knocker," the "sorehead," with disappointed ambitions, in both medical and civic politics, who at once proceeds to let out a roar and a kick that can be heard from the Atlantic to the Pacific oceans, about the sins of the powers that be, when a better man is elevated to office. These disturbing elements are factors in the career of the politician, keeping him in the straight and narrow path; for the harm they do he must find an antidote, the good they do he should utilize for the benefit of the body politic.

"The broad-minded twentieth century physician cannot plead the exactions of his practice as a reason for failure to manifest a becoming concern in the proper administration of public affairs but, his talents dedicated to a life of service, cannot refuse to recognize the larger obligations of his calling, and should cheerfully and gladly assume his portion of the burden they entail."

"The doctor in politics"—may his kind ever increase! Peace be to his ashes!

SPECIAL ARTICLES

THE NEW YORK SUMMER CAMPAIGN AGAINST INFANT MORTALITY

Hiram K. Moderwell

Late of the New York Bureau of Municipal Research for Infant Mortality

The campaign which New York City is making this summer against infant mortality aims to organize all the forces, public and private, which have been working to this end in past years, to make an extensive experiment in a limited number of cases, and by educational propaganda to lay the foundations for better conditions in the future. The work is not in an altogether orderly state; there is still much of the very friction which the organization of the Milk Stations Association was designed to prevent; there is some of the ineffectiveness of the old private organizations which have gone to seed and of the new ones which have not yet struck root, and there are large sections of the field which are yet unploughed. But there is an organized attempt to

produce definite results which will be of genuine value to the country, being pushed through with a new energy and understanding, and working toward a definite concrete end. This end is the municipalization of the milk stations, which has been promised by the city hall if the experiment can show material results. In the meantime the organization is showing its hand and can be judged by its fruits.

The infant mortality of New York City is not so high as is generally supposed. It ranges close to twelve to the hundred for infants under one, whereas twelve years ago it was (on somewhat unsatisfactory data) twenty-one to the hundred. But of the 16,000 babies which die annually it is estimated by the department of health that 8,000 can be saved, and saved through very simple methods. During the summer months there are, out of the 130,000 infants in the city, as many as 300 to 400 which die each week, and two-thirds of these from diarrheal diseases, which is, according to the department's belief, practically preventable. The concrete problem is one of food, clothing and fresh air. It is thus very slightly a problem of the highly trained physician, but largely one for the visiting nurse, the publicity man, and—let us hope—the social reformer.

The problem of pure milk is met, so far as possible, through the milk stations, of which there are now about ninety in greater New York. These are centers for the distribution of pure milk—either pasteurized, certified, or tuberculin tested—at or below cost. The retail price is from six to eight cents, which, although somewhat higher than that of raw milk at the corner grocery store, does not scare away the mothers once they understand the need. Most of the stations have from 100 to 150 babies in their clientele, and one dispenses more than 400 quarts of milk daily.

The proper modification of the milk is in most cases taught to the mothers in their homes by the visiting nurse connected with the milk station. This is done according to the formula of the clinical physician who has examined the baby, although the stations of the Hon. Nathan Straus, one of the pioneers in the work, dispense bottled milk already modified for babies according to the age. Of course all cow's milk is recognized as a makeshift, a second best. The fact that breast-fed babies have vastly better chances for life than those fed on the bottle would throw all the emphasis on breast-feeding, if there were not a stone wall in the way here. Mothers who are obliged to work all day up to the day of confinement and beginning again a week or two weeks afterward cannot be expected to have good milk, and it is impossible to get at this fundamental without disturbing the economic foundations. Similarly, also, cleanliness and fresh air cannot be expected when the income of the family compels it to live in two rooms. These conditions set the limitations within which the baby-saving campaign must be conducted.

Each baby brought to a milk station is examined by the station physician, recorded and charted. Weekly thereafter it is weighed and examined. If the increase in weight is not normal and satisfactory from week to week some special investigation is made as to the causes.

Most of the educational work falls on the visiting nurses, of which there is one to each station, in addition to the matron. Her first duty is to drum up trade in the neighborhood. Then with each baby which is taken on the station list (and none are refused) she makes a visit to investigate home conditions. In the mother's own house, and with her own utensils, she demonstrates all that the mother is likely to digest as to the preparation of the milk and the care of the baby. Then she repeats her visits until she feels sure that the mother has learned her lesson. The ready cooperation and intelligence of the mothers has come somewhat in the way of a surprise this summer.

In addition to the station nurses there are 140 school nurses which the city has turned over to the summer work. Each nurse is responsible for 150 babies (presumably well ones), on which she must report each week. The problems which arise in her flock are threshed over in the daily conferences with the supervising physician, and in case of illness the physician makes a personal visit and leaves written and sealed instructions with the nurse.

Thus there are nearly 30,000 babies under control this summer. These are to be used as the basis for an intensive experiment whose results will really be authoritative. The purpose is to make the present methods of prevention (on which the whole emphasis is now being laid) show such a decrease in the death-rate by the end of the summer as to make the experiment an incontrovertible proof. A similar although much smaller experiment in Boston showed a difference of nearly 50 per cent. between the death-rate of the babies under control and the average infant death-rate of the city. In New York the results during the fearful July heat wave were extremely favorable, and if a prediction can be made at this time it seems probable that the final showing for the summer will be a lowering of at

least 50 per cent. in the death-rate of the babies under control. And these may reasonably be called an average lot.

This work is being supplemented so far as possible by publicity in the newspapers, by placards, and by pamphlets of instructions sent to each mother of a new-born baby. The foreign papers are being used for short, crisp daily rules of health, and for weekly longer talks on the care of babies. The locations of the milk stations are published frequently.

The Milk Stations Association, which is composed of the city health department and seven private philanthropies, is the clearing house for all this work. In its office complete records are kept and compiled weekly for all the babies, and statistics are worked up to show the actual amount accomplished. Through this office, too, go all the appeals for relief, which are turned over to the regular relief societies of the city. This problem, which has in the past been very unsatisfactorily handled, seems now in a better way, and twenty-four hours is usually enough to give needy families the help they want.

The largest of the private organizations, The New York Milk Committee, will make the details and results of the summer's work available in a published report, to be ready about the middle of November. This should make the summer campaign in New York of practical value throughout the country.

IMPROVEMENTS AT THE BACTERIOLOGICAL LABORATORY OF THE STATE BOARD OF HEALTH

J. P. Simonds, M.D., Superintendent
INDIANAPOLIS

A sputum shaker and a new centrifuge have been ordered for the State Laboratory. This was made necessary in order to carry out more rapidly the "antiformin method" of examining sputum for tubercle bacilli. This method has been used here for the past three months, but requires a great deal of time and labor with our present equipment.

Antiformin is a mixture of equal parts of solutions of sodium hypochlorite and sodium hydroxid. This mixture contains a large amount of free chlorin. It has the power of dissolving pus cells, mucus and ordinary bacteria, and the mixture of antiformin and sputum becomes almost clear. On account of their waxy capsules, tubercle bacilli are not affected by it. By centrifuging the almost clear mixture, all the tubercle bacilli in the entire mass of sputum are concentrated in a small mass of sediment. This sediment is washed to free it from the excess of alkali, again centrifuged, and smeared on a slide covered with albumin fixative.

The results obtained by this method during the past three months have seemed to us to justify making it a permanent part of our routine sputum examinations. During one month we treated with antiformin only those specimens from cases clinically diagnosed tuberculosis, but found negative by the ordinary bacteriological examination. The results are shown in the following table:

Total number of specimens of sputum received March 15 to April 15	339
Positive by ordinary examination	28.3 %
Positive by combined ordinary and antiformin examination	30.65%
Increase by combined method.	2.35%

Last month, out of 368 samples of sputum digested with antiformin, 122 or 33.2 per cent. were positive. Our average of positive findings last year with the ordinary method of examinations was 29.5 per cent. This method of digesting and centrifuging sputum increases the value of negative findings.

A new outfit for collecting blood for the Widal reaction has just been distributed among the health officers of the state for distribution among the physicians in their respective communities. The new outfit makes it possible to send whole blood to the laboratory. From this accurate dilutions of serum can be made. The outfit consists of a small cylindrical mailing case with a screw cap. Inside this are two spindle-shaped, sterile capillary tubes sealed at both ends, together with an identification card and directions for collecting the specimen. These directions are as follows:

1. With clean fingers, break off neatly and *squarely* the *tips* of *both* ends of the spindle-shaped glass bulb.

2. Cleanse the lobe of the patient's ear or the tip of his finger with soap and water followed by alcohol, and prick it well with a sterile needle. A *large-sized* straight Hagedorn is the best. (An ordinary new writing pen also works well.)

3. As the blood wells out, holding the tube horizontally place one end in the drop of blood and allow the spindle-shaped bulb to fill at least half full. Three or four large drops will be sufficient. If too small a needle has been used, the

blood will not well out so freely and the finger or lobe of the ear may have to be gently "milked." *Fill the tube from one end only.*

4. When the bulb is half full seal off the empty end of the tube in the flame of a candle or match. As soon as this cools, shake the blood into the sealed end with a motion like that with which you shake down your thermometer. Then seal the other end. *Be sure that both ends are completely sealed.*

5. Fill out the accompanying card and mail it to us with the tube of blood in the mailing case.

For this new outfit to be satisfactory it will be necessary to secure at least three drops of blood and to follow to the letter the directions for sealing the tubes. If the tubes are not perfectly sealed, there will be complete loss of the serum from leakage. Many of the specimens already received have been unsatisfactory because too little blood was sent, but that was almost as frequent with the old mica plate method. Some specimens have also been disappointing because the serum had been lost by leakage. There is an art in drawing blood into a capillary tube. The operation is quite simple, however, and with only a very little practice the art is easily acquired. We believe that the new outfit will be quite satisfactory as soon as the physicians of the state become accustomed to using it.

ANNOUNCEMENT OF COMMITTEE ON ARRANGEMENTS FOR THE INDIANAPOLIS SESSION

To the Members of the Indiana State Medical Association: — On account of some attractive innovations and other favorable circumstances it is believed that the annual meeting to be held at Indianapolis, Sept. 28-29, 1911, will be by far the largest and best in the history of the organization.

The German House, corner of Massachusetts Avenue, New Jersey and Michigan Streets, well known to the profession as the place of meeting for the last three meetings in Indianapolis, has been chosen again as the place where most of the sessions and functions will be held.

Clinics will be given preceding and following the meeting, in regard to which see statement of Dr. Paul F. Martin, Chairman of Clinical Committee.

The House of Delegates will meet in the Auditorium of the German House Wednesday, September 27, at 8 p. m.

This will be followed by some kind of informal function to be given by the Indianapolis Medical Society.

Registration headquarters will be near the main entrance to the building.

The first session, a general one, will be held in the Auditorium of the German House at 9:30 a. m., September 28.

At 1:30 p. m. the medical and surgical sections will meet at the City Hospital, reached by Blake Street cars. Papers will be read and discussed and illustrative cases shown, with instructive bacteriologic and pathologic demonstrations.

At 7 p. m., September 28, the great "Medical Achievement Banquet" will be given probably at the German House; see statement of Dr. J. F. Barnhill, Chairman of Banquet Committee.

The election of officers and last meeting of the House of Delegates takes place at German House, 8:30 to 9:30 a. m., September 29, followed by medical section in the auditorium and surgical section on second floor, German House. Adjournment of scientific meeting at noon.

Mrs. F. B. Wynn is chairman of Committee on Entertainment of Visiting Ladies, details of her plans to be announced later. Dr. and Mrs. T. C. Kennedy invite the ladies to their home in Irvington the evening of September 27, when the gentlemen will be attending the local society function, a stag affair. It is hoped that doctors will bring their wives or sweethearts to the banquet.

It is suggested that college and class reunions be arranged to conflict as little as possible with other features of the meeting. The hours of 4:30 or 5 p. m. September 28, or 12:30 or 6 p. m. September 29 would be most suitable with this in view.

More complete details will be sent to each member of the Association a week or ten days before the meeting.

Make your plans to attend this, which will be the most profitable and enjoyable meeting in all our history.

E. D. Clark,
Chairman Committee on Arrangements.

THERAPEUTIC NOTES

With the increasing use of solutions of iodin for antiseptic purposes some annoyance is encountered by the iodin stains on clothing and skin. These may be promptly and completely removed by moistening the spot with equal parts of a saturated solution of sodium hyposulphite and ammonia water.

Venereal Prophylaxis.—The results obtained in the U. S. Navy by the prophylactic

treatment of venereal disease as reported by Ledbetter, *The Journal A. M. A.*, April 15, 1911, are worthy of consideration. The procedure could be advantageously employed in civil practice. The method used is as follows:

"The entire penis is scrubbed with liquid soap and water for several minutes, and then washed well with a solution of mercuric bichlorid, 1 to 2,000 in strength. If there are any abrasions present they are sprayed with hydrogen peroxid from a hand atomizer. The man is then placed in a sitting position well forward in a chair in front of a convenient receptacle and given two injections of a 10 per cent. solution of argyrol. He is required to retain each injection in the urethra for five minutes. After taking the injections, the entire penis is thoroughly anointed with a 33 per cent. calomel ointment. He is told not to urinate for at least two hours and to allow the ointment to remain on the penis for some hours. A temporary dressing is now put on the penis to protect his clothes and he is excused."

Delirium Tremens.—The disagreement among various writers as to the proper treatment of delirium tremens is striking. A number of articles dealing with this subject have appeared lately. These articles have considered the statistical results obtained by treatment with various drugs. One of the most complete papers on this subject is that by Ranson and Scott, *Am. Jour. Med. Sci.*, May, 1911. This study is based on 1,106 cases, the great majority of which were treated in one institution. The results of treatment by morphin, hyoscin, bromid, chloral, paraldehyd and veronal are given in tabular form showing the influence these various drugs have, first, in preventing the development of the second stage, and second, their influence on mortality. These results indicate plainly that moderate doses of veronal are most efficient in preventing the development of the second stage of the disease, and second stage cases under veronal have the lowest mortality.

Another mooted question is the use of alcohol during the attack. The results obtained by Ranson and Scott plainly indicate the use of alcohol during the first stage, but in the second stage the mortality was practically the same whether alcohol was used or withheld.

Dram doses of the fresh fluidextract of ergot every four hours was of marked benefit in both stages of the disease. This result they attributed to the effect ergot has in increasing vasomotor tone, thereby lessening the tendency to edema of the brain.

SCIENTIFIC PROGRAM FOR THE INDIANAPOLIS SESSION

Thursday Morning, Sept. 28, 1911, 9:30 to 12:30

German House Auditorium

President's Address (or Opening Remarks) .....F. C. Heath, Indianapolis

Address .....U. S. Senator R. L. Owen, Oklahoma

Address ..... Dr. Wm. H. Welch, Baltimore, Md.

Typhoid Fever and its Surgical Treatment .... G. G. Graessle, Seymour

Discussion opened by M. F. Porter, Ft. Wayne; P. F. Martin, Indianapolis.

Justification of Early Prostatectomy..... .....F. H. Jett, Terre Haute

Discussion opened by Edwin Walker, Evansville; B. Erdman, Indianapolis.

Lantern-slide Exhibition of X-Ray Skiagrams. .....A. M. Cole, Indianapolis

Thursday Afternoon, Sept. 28, 1:30 to 4:30

Medical Section, Indianapolis City Hospital, Amphitheater

Symposium on Syphilis—
Sociological Aspects .....C. E. Barnett, Ft. Wayne
Diagnosis .....W. P. Garshwiler, Indianapolis
Treatment (Including Salvarsan) ....B. W. Rhamy, Ft. Wayne

Discussion opened by F. R. Charlton, Indianapolis; D. C. Ridenour, Peru; A. M. Hayden, Evansville.

Glenard's Disease.....Ch. R. Sowder, Indianapolis

Discussion opened by A. B. Graham, Indianapolis; A. P. Buchman, Ft. Wayne.

Nervous Crises.....C. E. Cottingham, Indianapolis

Discussion opened by S. E. Smith, Richmond; Ch. F. Neu, Indianapolis.

Sacro-Iliac Disease other than Tubercular..... .....Etta Charles, Summitville

Discussion opened by J. V. Reed, Indianapolis; M. A. Boor, Terre Haute.

Surgical Section—City Hospital

Fractures of the Humerus...H. R. Allen, Indianapolis

Discussion opened by G. F. Holland, Bloomington; J. A. Rawley, Brazil.

Fractures of the Femur.....T. A. Olney, South Bend

Discussion opened by Walker Schell, Terre Haute; H. A. Duemling, Ft. Wayne.

Injuries in and about the Ankle..E. H. Griswold, Peru

Discussion opened by J. W. Sluss, Indianapolis; J. R. Pearson, Bedford.

Toxemia of Pregnancy..G. Van Sweringen, Ft. Wayne

Discussion opened by A. Pierson, Spencer; G. B. Jackson, Indianapolis.

Common Causes and Treatment of Difficult Labor .....E. E. Wishard, Noblesville

Discussion opened by C. E. Ferguson, Indianapolis; H. A. Cowing, Muncie.

Diagnosis and Treatment of Empyema of Chest.. .....Harry Elliott, Brazil

Discussion opened by C. A. Daugherty, South Bend; J. Clark, Connersville.

Friday Morning, Sept. 29, 9:30 to 12:30

MEDICAL SECTION, GERMAN HOUSE AUDITORIUM

Conservation of Hearing..J. F. Barnhill, Indianapolis

Discussion opened by D. W. Stevenson, Richmond; L. D. Brose, Evansville.

Treatment of Heart Disease.....
.....W. G. Wegner, South Bend

Discussion opened by A. C. Kimberlin, Indianapolis; C. S. Bond, Richmond.

Infantile Paralysis.....W. D. Hoskins, Indianapolis

Discussion opened by F. B. Wynn, F. O. Dorsey, and S. E. Earp, Indianapolis.

Diet .....C. Norman Howard, Warsaw

Discussion opened by J. B. Berteling, South Bend; G. D. Balsbaugh, Huntington; H. H. Thompson, Noblesville.

Tuberculin Diagnosis.....Theo. Potter, Indianapolis

Discussion opened by W. T. Dodds, Indianapolis; T. J. Beasley, Danville.

Reflex Neuroses.....J. W. Hadley, Frankfort

Discussion opened by J. L. Thompson, Indianapolis; A. E. Bulson, Ft. Wayne.

SURGICAL SECTION, GERMAN HOUSE, SECOND FLOOR

Some Uterine Hemorrhages....T. M. Jones, Anderson

Discussion opened by J. C. Sexton, Rushville; T. C. Kennedy, Indianapolis.

Uterine Fibromata.....S. J. Young, Valparaiso

Discussion opened by T. B. Noble, A. S. Jaeger, Indianapolis; J. H. Weinstein, Terre Haute.

Gall-Bladder Infections and Gall-Stones. From Study of 100 Cases.....M. A. Austin, Anderson

Discussion opened by W. H. Williams, Lebanon; E. D. Clark, Indianapolis.

Adhesions and Hernia.....D. F. Lee, Indianapolis

Discussion opened by J. H. Oliver, Indianapolis; J. F. Smith, Brazil.

A Plea for Better Asepsis in Abdominal and Pelvic Surgery .....E. B. Ruschli, Lafayette

Discussion opened by J. R. Eastman, Indianapolis; A. P. Roope, Columbus.

Why Reoperate in Adenoid Cases?.....
.....G. W. Spohn, Elkhart

Discussion opened by L. F. Page, Indianapolis; G. F. Keiper, Lafayette.

Introduction of President-Elect (in Auditorium).

Adjournment.

Information has reached us to the effect that a few former members of the State Association have refused to continue membership this year because of the increase of $1 in dues. This would seem almost too small to merit discussion, but because some few really well-meaning brethren may not fully understand the purpose of the increase and the value to be derived therefrom, we venture on the patience of the many and ask their indulgence, even though the matter has been many times gone over in these columns.

At the Fort Wayne session last September, the House of Delegates voted to investigate thoroughly, during the coming year, the question of medical defense through the State Association, for its individual members, with the idea of presenting, at the Indianapolis session, some tangible data as a basis for the inauguration of this feature. And in order to provide a fund both for the expense of conducting such investigation and for meeting the obligations incident to the actual installation of such institution, the House of Delegates likewise voted an increase of $1 in the membership dues to the State Association. So far as our knowledge goes, the remainder of the dues ($1 per member) goes toward meeting the cost of maintaining the Association and its annual session, and assisting in the publication of The Journal. We regret to say that our membership list and the amount per capita allowed The Journal are still so small that, were it not for our advertising pages, it would be absolutely impossible for The Journal to be published in anywhere near its present size. As a matter of fact, the Council established The Journal largely on its faith in the growth and life of the Association, and the editors and manager have been working in the same spirit. As has been mentioned previously, something over $3,000 worth of advertising has been refused because it was not deemed up to the standard that was desired for The Journal of the Indiana State Medical Association. In other words, every effort has been bent toward making ours one of the cleanest and best state journals published, and, all things considered, we are not ashamed of the results of wide comparison. There is probably not an officer of the Association whose function is not fulfilled with a considerable expenditure of time for which the actual financial remuneration is considerably below his earning capacity. The work is, however, cheerfully done and with no complaining from anyone engaged in the actual work of the Association.

Concerning the additional dues for the purpose of medical defense, we are at an utter loss to understand the logic of refusing one's support to a proposition which is undertaken solely in the interests, both moral and financial, of the contributing individual. Furthermore, it would seem to be a safe conclusion that the objection to this feature probably comes from the man who stands most in need of the protection afforded by good medical defense.

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AUGUST 15, 1911

EDITORIALS

VIPOND'S BACILLUS OF SCARLET FEVER

So numerous have been the etiologic factors of scarlet fever which have been discovered, that the profession has naturally become very skeptical on questions concerning the bacteriology or parasitology of this disease. And yet one cannot read the results of Vipond's experiments[1] without a feeling that they are decidedly suggestive, if not positive. Certain it is that Koch's postulates have all been amply satisfied in the work and it only remains for the results to be confirmed at the hands of other scrutinizing observers. If, then, the bacillus isolated by Vipond should prove to be the specific cause of scarlet fever, the field is opened whereby we may hope for vaccines and antisera, with a possible mortality reduction parallel to that of diphtheria through the discovery of antitoxin.

Efforts at the discovery of the exciting factor in scarlet fever date back many years, Class, in 1889, having isolated from the blood, throat and scales of scarlet-fever patients, an organism resembling a large gonococcus. Gordon and Klein each succeeded in finding a streptococcus from the tissues of scarlet-fever patients but Dudgeon does not believe that we can accept either of these organisms or that of Class at the present time as the true organism of the disease, but rather considers the streptococcus in scarlet fever as a secondary infection in the septic cases of this malady, just as it may be in other diseases. Jordan likewise concurs in this latter opinion, inasmuch as inoculations made with so-called scarlet-fever streptococci have failed to produce the disease. Similarly Dudgeon has failed to corroborate the findings of Mallory who described a protozoon-like body in the blood of four cases of scarlet fever.

On the other hand Vipond, noting the unvariable adenopathy and consequent glandular congestion in infectious disease, conceived the idea that the portal of entry being the tonsil, the irritant — whatever it be — thence traveled to the various lymph glands where it early set up its inflammation and liberated its toxins to be distributed throughout the system. Hence it was rational to believe that if this irritant were a bacterium, it should be most easily isolated from one of the affected glands.

Acting on this hypothesis he obtained from the body of a 4-year-old child, dead from scarlet fever, a number of enlarged axillary and lymph glands and collected the lymph therefrom. Under aseptic precautions this lymph was inoculated into a slant of agar, blood-serum and broth, and within a few hours a mixed growth developed on the different media, part of which proved to be *Staphylococcus aureus*, and part a raised white growth made up of bacilli. On isolation this bacillus grew rapidly and readily on all different media, including dextrose agar, glycerin agar, blood agar, plain agar, blood-serum and broth, a well-developed growth on dextrose agar being seen within four hours.

Gruner, pathologist to the Royal Victoria Hospital, Montreal, thus describes the growth and the organism:

"The cultures show a growth produced by long bacilli with rounded ends, staining variably with Gram, and occasionally showing a beaded structure, but metachromatic granules are not present.

"Some cultures show sluggish oscillatory motility.

"The organism is an active spore former, the spores being endogenous and the same diameter as the organism.

"The culture on broth forms an adherent film, which tends to sink in the medium; the odor is rather offensive. The agar-culture forms a moist, smooth film which develops rapidly; the edges are filamentous and the growth tends to become raised and subsequently wrinkled; pink pigment is ultimately produced.

"On sugar media it is found to be an acid producer with abundant gas formation. . . .

"Milk is slowly coagulated with formation of acid.

"Indol is produced in peptone water."

Case 2 of Vipond's was a boy about 6 years old, who had suffered from typical scarlet fever for about six days, all lymph-nodes being much enlarged. Under aseptic precautions, some of the lymph was withdrawn by a hypodermic needle, from one of the large inguinal nodes and the same bacillus with identical cultural characteristics was recovered in the pure state.

The same results were obtained in four other cases and in still another—a rapidly fatal case of malignant scarlet fever—a few bacilli were

1. Arch Pediat., July, 1911.

recovered but mixed with a vigorous growth of streptococci.

Feeling this bacillus to be the specific organism of scarlet fever, Vipond injected a broth culture into a monkey, in the effort to reproduce the disease. Within forty-three hours after the inoculation, the previously normal lymph-glands of both axillæ were noticeably enlarged, as were the other glands of the body, the animal became irritable, thirsty and rapidly lost weight. On the fourth day the monkey was very weak and ill, had no appetite, was still thirsty and his tongue was coated. All symptoms were markedly increased on the fifth day, the cry was weak, voice hoarse, face wrinkled, tongue fur-coated, throat congested, the animal appearing very distressed. A red rash appeared on this day and the lymph-nodes were very much enlarged. In the afternoon of the same day the monkey continued very ill and weak, his tongue was the typical strawberry tongue of scarlet fever, the rash persisted, and the animal died at 7:30 p. m. Lymph obtained from the cervical, inguinal, axillary and mesenteric glands, inoculated into tubes of plain agar and broth, yielded growths of the same bacillus. Like results were obtained in four other monkeys and two rabbits, the same bacillus being recovered from the enlarged lymph-glands in every case after each had developed a typical case of scarlet fever. The shortest incubation period was two days and the longest five; that of the rabbits being three days, while the lymph-glands were palpable in thirty-six hours after inoculation.

Although Vipond's results are only offered as a preliminary report, yet he feels warranted in drawing certain conclusions and since reading his paper, he has succeeded in producing scarlet fever in a monkey and a rabbit by direct contact from monkeys and rabbits with scarlet fever, recovered the same bacillus in each case.

His conclusions are as follows:

"1. The bacillus has been obtained from the seven cases of scarlet fever mentioned.

"2. The bacillus will grow on all ordinary media, the growth occurring in three and a half hours—a most rapidly-growing bacillus.

"3. The bacilli are to be found in the lymph-nodes, where they multiply and form toxins which enter the circulation.

"4. The bacilli have been inoculated into five monkeys and two rabbits. Typical scarlet fever has developed in all, including the rash, enlarged lymph-nodes, desquamation, etc. No suppuration in any one instance took place at the point of inoculation. Streptococci would likely have had this effect.

"5. The same bacilli have been recovered from the lymph-nodes in each instance, and further, the typical growth has developed on the different media."

ACQUIRED DIVERTICULITIS

It has only been within the last fifteen years that a certain group of cases of more or less chronic bowel obstruction has been sufficiently studied to establish the definite pathology thereof. To-day such a condition associated with localized symptoms in the lower left abdominal quadrant, immediately suggests the possibility of acquired diverticulitis of the sigmoid.

Although diverticula had been described by Morgagni (1796), Fleischmann (1815), Albers (1844), Habershon (1857), Klebs (1869), Loomis (1872), Fisher (1900), and others, they were regarded by these observers as mere pathological curiosities, and the real clinical interest, according to Dunn and Woolley,[1] dates from the demonstration by Graser, before the Twenty-Seventh Congress of Surgery, of a stenosis of the sigmoid due to chronic hyperplastic inflammation. The portal of entrance for the infection of this inflammatory mass he believed to be a number of diverticula. Since that time Gordinier and Sampson[2] have compiled a table recording sixty-four cases in 8,132 autopsies at the hospital in the city of Dresden; nineteen out of 2,600 at the Johns Hopkins Hospital; two out of 953 at the Bender Hygienic Laboratory, and one out of 2,383 at the Boston City Hospital. So that it is probable that the lesion is much commoner than has been supposed and will doubtless be more frequently recognized in the future. Mayo, Wilson and Giffin[3] some years ago reported five positive and four probable cases of diverticulitis. In all five of these cases the colon was resected and the gross appearance in situ was that of carcinoma, the absence of malignancy being revealed only by microscopic examination. In fact the first case operated on was for a supposed carcinoma of the sigmoid. Indeed many of these cases have been operated on, the diagnosis of malignancy made and the abdomen closed with a fatal prognosis, only to find ultimate complete recovery taking place.

There are two varieties of the acquired diverticula, the true and the false, the former being merely wide-mouthed pouches whose walls contain all the layers of the normal bowel, they

1. Am. Jour. Med. Sci., July, 1911.
2. Jour. A. M. A., May 26, 1906.
3. Surg., Gynecol. and Obstet., July, 1907.

being of anatomical interest only, while the false diverticula are herniaform protrusions of the mucous membrane through the muscularis, and are of decided pathologic and clinical importance. Acquired diverticula may occur in any portion of the intestinal tract but are more common in the colon and most frequent in the sigmoid portion. The lesion is more common in males 45 or more years of age, and with a past or present history of obesity. The etiologic factors are thus briefly summarized by Dunn and Woolley: "(1) Congenital or acquired anatomical predisposition to localized weakness in the wall of the gut. (2) The addition of certain positive mechanical factors to the above potential factors, viz.: (a) Strain on the bowel wall due to the accumulation of gas and feces. (b) Changes in the caliber and structural strength of the 'vessel holes' consequent on stasis and senile circulatory disturbances, or on rapid loss of visceral fat. (c) Atony, which may be due to age, distention or obesity."

The essential pathology consists, as has been stated, of a hernia of the mucosa through the muscular coat, often leaving a very narrow ostium into the bowel and forming a sac for infection outside the bowel, and with poor chance for drainage. The coats vary, mucosa, submucosa and serosa being constant, the amount of muscularis varying in different diverticula and in different parts of the same diverticulum. The thinnest part of the wall is at the tip of the process and here there may be only a thinned-out layer of mucosa and serosa. The morbidity depends on several factors, e. g., thinning of the coats, ulcerative and perforative action of the retained concretions and feces, presence of pathogenic organisms and insufficient drainage due to defective musculature, edematous closure of neck, or kinking, torsion or sphincteric action at the opening.

Acquired diverticula of the sigmoid may result in local peritonitis (left iliac abscess being the most frequent clinical manifestation), acute diffuse peritonitis, with or without perforation, chronic hyperplastic sigmoiditis, cancer, stenoses, adhesions producing either traction and constriction, or with the bladder, resulting in vesico-sigmoidal fistula, chronic mesenteritis, metastatic suppuration, and perforation into a hernial sac.

The diagnosis is by no means easy, Franke being able to collect from the literature only two cases in which it had been made and to which he could add one of his own. Most commonly the symptom-complex is one of left-sided appendicitis. Pain, gastric disturbances, tenderness, and rigidity in the left lower quadrant, with fever and leukocytosis, often with abscess formation, usually form the picture. Associated with the intermittent pain there is irregularity of bowel action, gas and often spastic stools containing mucus and an occasional trace of blood. A sausage-shaped tumor, either adherent or freely movable and varying in size, and occasionally rectal infiltration, may be elicited by physical examination. Carcinoma more commonly gives rise to obstructive symptoms, its course is more progressive and limited, ulceration and blood in stool are more common with it. Likewise the tumor is harder, more circumscribed, progressive and not elongated. Diverticulitis must also be differentiated from pelvic abscess, tubo-ovarian abscess, mucous colitis, amebic colitis, chronic proctitis, tuberculosis and syphilis of the sigmoid, psoas disease and retroperitoneal abscess in the flank from other causes.

The treatment is more often surgical although some of the milder cases will undoubtedly recover without operation. W. J. Mayo says "the surgical treatment . . . depends on the condition present. First, localized suppurative cases must be treated by free drainage. If, in conjunction with the infective process, acute obstruction of the bowels develops, as in the cases reported,[4] a temporary artificial anus should be made and, if necessary, after the infection has subsided, the involved colon may be resected. Second, if a considerable tumor is present and the symptoms do not show a tendency to disappear, it is better to make a primary resection of the affected part of the bowel, before abscess and fistula supervene to render patients prolonged invalids.

" . . . The milder cases which tend to spontaneous recovery do not suggest operative treatment."

SUGGESTIONS FOR INCREASING INTEREST IN COUNTY SOCIETIES

The report of the committee to consider the question of increasing interest in the medical society of the state of New York, as published in the New York *State Journal of Medicine*, contains so many valuable suggestions and recommendations applicable to any section of the country, that we feel disposed to abstract the report as a guide for county society officers in Indiana in enabling them to increase the membership and interest in their respective societies. The report

4. Loc. cit.

contains the following suggestions for increasing interest in county societies:

1. Improved programs. Interest in the meeting depends largely on the attractiveness of the program.

2. Take up post-graduate course as recommended by American Medical Association. This systematizes the programs.

3. Confer with State Board of Health for at least one meeting a year on public health matters. Cooperation with the Health Department is essential to the welfare of the community.

4. Have at least one reader a year from a distance. Confer with the Committee on Scientific Work of state society if necessary. It will be glad to suggest names of those willing to render such service.

5. Arrange for one or more clinical meetings a year. Select subject and request all who have proper cases to bring them before the society: then have a discussion on the same, always with the understanding that discussion of the case shall not be held in the presence of the patient; otherwise, frequently patients cannot be shown for obvious reasons.

6. Arrange for demonstrations by bacteriologists and pathologists with specimens, lantern slides, etc.

7. Arrange for social part of meeting. Some light refreshments at the close of the meeting are an adjunct to fraternal intercourse.

8. See that meetings are held often enough to keep up interest. Once or twice a year is not enough. Invite every member of the profession in the county to at least one meeting a year, not necessarily inviting them all to the same meeting. In counties where men do not show a willingness to write papers either designate writers for different meetings or see that outsiders are invited—in other words, *see that the meetings are made interesting.* It should be the aim of every county society to secure a permanent home; a small library, with a supply of current journals, and the use of the larger libraries for reference books will greatly increase interest on the county organization.

9. Arrange the time of meeting to accommodate the largest number of members. Where men come from long distance, an evening session is obviously the most inconvenient. An afternoon session will often appeal to a larger number of men when it permits them to reach their homes at a seasonable hour.

10. Select as officers men who are willing to work. Keep good men in office. Do not promote those who have shown they will not attend to the duties assigned them. Efficiency is the only criterion of leadership. "No physician should accept office unless he is prepared to give the position the attention that it deserves and unless he is interested in the work."

11. In small societies do not unduly multiply offices—the secretary's and treasurer's duties can be best done by one man. Always supply officers with clerical help if work is onerous. Detailed drudgery work should not be asked of men serving for others without compensation.

12. Make the dues large enough to warrant conducting the society work in a proper manner. Those who object to the amount of their dues usually do so because they are not receiving full value for them. Give back a dollar in value for every dollar paid in and complaints will be few.

13. Provide a Committee on Entertainment who shall welcome new or prospective members or guests at meetings. The officers of the society may be active or exofficio members of such committee. Newly registered physicians should be visited by such committee or written to and asked to join the county society.

14. See that the meetings, programs and proceedings are published regularly and promptly in the state journal.

15. Have high ideals. Be liberal yet firm in maintenance of a high ethical standard. Educate the public. Be a power for good in the community. Do not be ashamed of the county society or apologize for it; make it better. Attend all meetings and see that others do the same. "The county society is a conservator of patriotism and worthy citizenship."

EDITORIAL NOTES

Whatever may be said in condemnation of Hearst journalism we are forced to admit that Hearst's paper at Los Angeles (The *Examiner*) gave the best and most accurate account of the recent A. M. A. session, and the editorials concerning the convention and the work done and being done by the medical profession all contained expressions of praise and approval.

The House of Delegates of the A. M. A. voiced the sentiments of all those who attended the Los Angeles session when it passed a set of resolutions, the final one of which is as follows:

"Los Angeles will never again be called upon to defend her title of 'The Queen Hostess among

American cities,' and with one voice we shall say on departing, 'Not good-bye, but *Au Revoir.*'"

The men who seek cheap notoriety by going over the Niagara Falls in a barrel or down the Whirlpool Rapids in a canoe ought to be provided with a means of effecting self destruction without the attending danger of coming out alive and living to pose before an idiotic public which is altogether too free to waste maudlin sentiment on these hair-brained characters.

Members of the Indiana State Medical Association will expect the Committee on Medical Defense to present some definite plan of defense for adoption at the Indianapolis session. There is absolutely no reason why the members of the Association should not, on and after Jan. 1, 1912, be given the benefit of protection in malpractice suits as a part of the benefits in connection with membership in the Association.

Dr. G. W. H. Kemper, the historian of the Indiana State Medical Association, has just published his Medical History of Indiana. Dr. Kemper is to be commended for his labor and enterprise, for it has taken a number of years to collect the material contained in his book, and he prides himself on the correctness and accuracy of the references. For many years to come the book will be a work of reference and it is the only medical history of the state ever published.

The Oregon State Medical Association, which met at Portland, July 10, took advantage of the presence of prominent medical men on the Pacific Coast attending the Los Angeles session of the A. M. A., to invite a large number of such men to be the guests of the society at the Portland session. Aside from the local talent the program contained these well-known names: Drs. William H. Welch of Baltimore, John B. Murphy and W. J. Butler of Chicago, M. Ravenel of Madison, Wis., and J. N. Hurty of Indianapolis.

The Chicago papers announce that the osteopaths in national convention assembled have issued a challenge to the other schools of medicine to compete with them in the treatment of several of the acute infectious diseases, and in particular in the treatment of typhoid and pneumonia. We haven't the faintest idea that the osteopaths would care to "make good" such a challenge, but even if they did, the result, whichever way it went, would be one of the best advertising features in which the osteopaths could be engaged.

It was a nervy thing for a lot of anti-vivisectionists of Los Angeles to pack the gallery at the opening meeting of the A. M. A. and attempt a demonstration in honor of their cause. Aside from the insult offered the medical profession in its own home it was a most ill-mannered and uncouth proceeding which can only be explained on the ground that those who indulged in it are a lot of fanatics having less sense and decency than the ordinary fanatic. We presume they all belong to that delectable (?) order known as The League for Medical Freedom.

As usual, Dr. Frank B. Wynn, of Indianapolis, director of the Scientific Exhibit of the A. M. A., came in for deserved praise for his exhibit at Los Angeles. Great credit is due the western members of the Committee in aiding Dr. Wynn in collecting such an exceedingly instructive lot of material. The preparation of the exhibit took a great deal of time and expense, and yet most of it has been done without recompense, excepting a consciousness of having rendered a very great service in the interest of the higher ideals of medicine.

Earthquakes may now have few terrors for the California people, but the eastern doctors who were in San Francisco and vicinity on July 1 did not appreciate the experience of that day in witnessing the severest shake that California has seen since the great earthquake which destroyed San Francisco. The quake was sufficiently severe to make all buildings tremble and in more than one place in San Francisco stone and brick walls of buildings were separated. We are under the impression that this shaking up caused many of the eastern visitors to cut short their visit in San Francisco.

We hope that the Program Committee for the Indianapolis session will not only secure acceptances from those appointed to open the discussion of papers at the Indianapolis session but will make it a point to emphasize the moral obligation that is assumed in accepting a place on the program. The Indiana State Medical Association should have a by-law worded something like the by-law of most sections of the American Medical Association, providing that if a member defaults

in the presentation of a paper or discussion he forfeits his right to appear on future programs for a period of two or three years.

The Journal of the A. M. A. of July 1, credits the Indiana State Medical Association with having 2,550 members on May 1, 1910, and 3,107 members on May 1, 1911, or an increase of 557 members for the year. We presume that two or three typographical errors have occurred or that someone has been giving the Indiana State Medical Association more credit than it deserves. While we have had a membership close to the 3,000 mark, we have never gone above 3,000, and on May 1, 1911, the membership of the State Association, owing to the large list of delinquents, lacked several hundred of reaching the number credited us by the *The Journal* of the A. M. A.

We have received some complaint concerning the efforts of certain county clerks to collect $1.50 for issuing a physician's license and inasmuch as the original Medical Practice Act fixes the fee at 50 cents we have taken the trouble to make inquiry, through the State Board of Medical Registration and Examination, as to the legality of the fees as charged in some instances. The answer is that the attorney-general has given an opinion to the effect that the fee bill under which some county clerks have been making a charge of $1.50 has been held unconstitutional and that, therefore, the legal fee for issuing a county physician's license is as specified in the original Medical Practice Act, which fee is 50 cents.

Remember that the annual session of the Indiana State Medical Association will be held in Indianapolis on Thursday and Friday, September 28 and 29. The September number of The Journal will be known as "The Indianapolis Number," and will contain all of the official announcements concerning the session, including a presentation of the official program, schedule of clinics, entertainments, etc. The number will be freely illustrated with pictures of public buildings, hospitals, officers of the Association, and scenes in and about Indianapolis. This special number will come from press and be in the hands of the members of the Association at least ten days before the Indianapolis session.

While those who were on the Pacific Coast attending the Los Angeles session of the A. M. A. were enjoying delightfully cool weather, and in San Francisco were actually forced to wear extra wraps to insure comfort, their friends all over the central, eastern and southern states were suffering greatly from the intense heat. The knowledge that the weather never gets hot on the Pacific Coast, that prostration from heat is unknown and that frost or cold is a rarity, has a tendency to make us envy our far western medical brethren, but we are reminded that California already has about all the doctors that can be supported by the practice of medicine, and life in the east is not without its compensations.

We desire to call attention in this number to the special article on the summer campaign against infant mortality that is being waged in Greater New York. The article was especially written for The Journal by Mr. Moderwell, at the request of the editors, and deals briefly, yet concisely, with the remarkable results obtained in the most unpromising quarters of a great city, by united and intelligent effort toward conserving the lives of babies. Surely what is being accomplished in the slums of New York, midst an environment reeking with filth and disease, can be more than duplicated in practically all the smaller cities throughout the country, and it is earnestly to be hoped that the greatest publicity will be given to the published report of this great movement when it appears in the fall.

As an evidence of the influence that large advertisers have with the public press it was noted in Los Angeles that the arrival of Dr. (?) Munyon of Munyon remedies fame was the occasion for many columns of free advertising concerning Munyon's announced mission to organize a new national society to be known as "The Hope Cult." The familiar advertising picture of the patent medicine Munyon with finger pointing heavenward, accompanied by the slogan "There is hope" will probably be used to advertise the new cult. Incidentally it is noted that Munyon does not lose the opportunity offered by the newspaper interviews and sight of free advertising to mention the value of his remedies in connection with adherence to the teachings of his new cult. Surely the advertising game is a profitable one to play.

The new president of the A. M. A., Dr. Abraham Jacobi, of New York City, is eighty-five years old, and because of advanced years was unable to go to Los Angeles. It was the first

time in the history of the Association that a member not present at the session has been elected to the office of president. While it establishes a bad precedent we cannot help feeling that the honor was rightfully bestowed, and the circumstances warranted breaking the unwritten rule that has been followed since the organization of the Association. Dr. Jacobi is one of the most eminent physicians in the world and he has been honored by numerous degrees and testimonials in foreign lands as well as in America. He is a renowned author and teacher, and his noble character has given him the well-known title of "the grand old man in medicine."

Dr. William H. Welch, retiring president of the A. M. A., recommends carrying out the suggestion made by the Medical and Chirurgical Faculty of Maryland that, in connection with the proposed celebration of the completion of the Panama Canal in 1915, there shall be suitable commemoration of the greatest triumph of modern times in the domain of preventive medicine. This celebration will be neither complete nor worthy without the fullest recognition of the contributions of sanitary science to the successful completion of the Isthmian canal. The completion of this stupendous undertaking could not have been possible without large sacrifices of lives had it not been for the scientific discoveries of Reed and Carroll and their colleagues. It is to the glory of American medicine that through the practical application of these discoveries it was possible to build the canal without great sacrifice of human life.

Concerning the standardization of digitalis, the *Journal of the A. M. A.*, of April 22, says that physicians and pharmacists for decades have been groping in the dark after the causes of the well-known variation in the potency of digitalis leaves, and have often attributed it to irrelevant circumstances. The editorial further says that "the real cause is unknown, but seems to be connected with the nature of the soil, the character of the season, etc.; it is only by the use of physiologic standardization that uniformly active leaves can be obtained at present."

We might add that digitalis is not the only drug which should be subjected to physiologic standardization in order to determine therapeutic efficiency, and as long as physicians will continue to prescribe inferior drugs manufactured by houses that do not practice physiologic standardization or even pretend to make quality the first consideration, just so long will we have inert or unreliable preparations and unsatisfactory therapeutic results.

The Committee on Arrangements has decided on an elaborate banquet as one of the features for the Indianapolis session of the Association. When we learn that Governor Marshall, Senator Owen and Dr. William H. Welch are among those who have accepted invitations to attend and deliver addresses, we are inclined to believe that the banquet will be a notable affair and probably pass down in history as being almost as famous as the banquet in Indianapolis of some years ago when James Whitcomb Riley recited "Doc' Sifers." At all events, such a banquet as proposed (and we are under the impression that President Heath is responsible for it) is a fit climax of the social features of our State Association, and while we believe that many members are opposed to the banquet which has become a bore to everyone because of the lack of sociability as well as the mediocre character of the post prandial program, we are sure that this contemplated banquet of which we speak will be a notable exception and we heartily welcome it as one of the attractive features of this year's session of the Association.

Notwithstanding the alarming newspaper reports concerning the presence of Asiatic cholera at the port of New York, we have every reason to believe that the people of the United States should have little fear of the disease gaining any foothold in this country. Our knowledge of cholera, including the means of its propagation, the methods for checking its spread and the manner of its treatment has broadened during the last twenty-five years, and added to this our laws concerning disinfection and isolation of suspects are much more rigid. The United States Public Health and Marine-Hospital Service has been greatly improved, and at present may be said to be so efficient that it is not probable that any considerable number of cholera cases will ever see more of America than the inside of a quarantine hospital outside New York Harbor. Even the suspects and cholera carriers from infected ports are detained and isolated a sufficient length of time to make certain that they cannot possibly introduce the disease into this country. The condition, therefore, is not such as to cause any particular alarm.

Dr. B. Van Sweringen of Fort Wayne, one of the councilors of the Indiana State Medical Association and a member of the city council of

Fort Wayne, has been particularly active in efforts to secure better health conditions for his home city, and in fact in bringing about many reforms that are for the best interests of the people. A few months ago he secured the passage of an ordinance restricting the sale of fireworks, and recently he has renewed his efforts for a sane Fourth by introducing an ordinance which practically prohibits any and all fireworks in the city of Fort Wayne on the Fourth of July or at any other time, though provision is left for pyrotechnic displays in any of the city parks providing such displays are under the direction of the common council. By many it is thought that the ordinance is altogether too stringent, as it prevents even the exhibition of patriotism on the part of the small boy who burns fire crackers, and it is quite possible that before the ordinance passes the common council of the city of Fort Wayne it will be amended so as to be less prohibitive in effect.

Kentucky delegates to this year's session of the A. M. A. have announced that next year they will make a bid for the 1913 session of the Association to be held at Louisville. Here's hoping that the other delegates will not be such a lot of pale blue asses as to vote for Louisville or any other small inland city as a place for any session of the A. M. A. Of course, Louisville could take care of the visitors by crowding them into private residences and boarding houses, but the majority of those who attend the annual sessions of the A. M. A. want better accommodations. Louisville is all right for some conventions, but not for the one made up of A. M. A. members. Louisville would be convenient for Indiana members, but Lord deliver us from any such convenience. Indianapolis could take better care of the A. M. A. than Louisville, but even our own Indianapolis is not equal to the task of properly caring for such a large convention. The experiences at Columbus, St. Paul and Portland, when the Association was much smaller than it is now, have left a bad taste in the mouth which makes us fight shy of meeting places where anything less than very ample hotel accommodations can be obtained. Atlantic City is the ideal place of all, and there are a few large cities that afford ample accommodations, but Louisville does not belong to that class.

That the administration at Washington will find itself in a sea of trouble if the alleged charges against Dr. Harvey W. Wiley, the government chemist, are pushed until the chemist's reputation is damaged or his dismissal is agreed on, is the assertion of Governor Marshall. The governor is a firm believer in the efficiency of the present administration of the pure food laws and declared that the attack on Dr. Wiley will injure the administration more than at present is anticipated.

"It is not money that these distinguished scientists want," said the governor. "They do not care about that at all—those of them that are really interested in their study, as is Dr. Wiley. Therefore it is preposterous to charge Dr. Wiley with irregularities after the fashion that has been initiated."

The governor discoursed at length on the numerous attempts of "the interests" to "get Dr. Wiley's scalp," and likened the situation in national affairs with regard to the pure food question to the situation in Indiana. He declared that the people of the state would rise up and that the present administration of state affairs would rise up in furious protest against any attempt of "business" in the state to discourage or retard the work of the state board of health, exemplified in the operations of Dr. J. N. Hurty, or the work of H. E. Barnard, state food and drug commissioner.

"The people of the state ten years ago would not have realized what such an attack meant on the board of health or its officers," said the governor, "but they are educated to the usefulness of this department of their government now and attempts to destroy or embarrass it would meet with instant disapproval."—Fort Wayne *Journal-Gazette*.

The Committee on Arrangements for the Indiana State Medical Association plans to have clinics, both medical and surgical, as a part of the program to be offered members who attend the annual session to be held in Indianapolis the latter part of next month. We presume that the Committee contemplates having the clinics before and after the session of the Association and not during the time set apart for the reading and discussion of papers, as it would not be fair to essayists or in keeping with the best interests of the Association to have rival attractions under the auspices of the Association at a time when the members are supposed to be listening to papers and participating in the discussion of the same. We are heartily in favor of holding clinics immediately before and after our annual sessions when the opportunity offers, but we are unalterably opposed to holding clinics during the time that meetings for the presentation of papers are

scheduled. We are also opposed to arranging social features for any time except when the members are free to attend such social features without absenting themselves from the regular meetings of the Association. In this connection we notice that Dr. J. B. Murphy, in his presidential address before the American Medical Association at Los Angeles, recommended that there be two clinical days before and two after the annual session of the American Medical Association, and that such clinics should be in charge of the section officers who should select the ablest teachers in their special line. He makes the special point that these clinics should *not* interfere with the general or section sessions. What applies to the American Medical Association can in like measure apply to the Indiana State Medical Association, and we sincerely hope that no clinics will interfere with the general or section meetings of our State Association.

The opposition ignorantly raised against vaccination has received another conclusive answer in a report on small-pox and vaccination in the Philippine Islands by Passed Assistant Surgeon Victor G. Heiser, Director of Health in the Philippines, and Assistant Surgeon Robert Oleson of the United States Public Health and Marine-Hospital Service. They say that at probably no time in the world's history has the efficiency of vaccination as a preventive for small-pox been so conclusively and effectively demonstrated as in the Philippine Islands since American occupation. The evidence of its value is incontestable. During Spanish times it was necessary each year, during the dry season, to erect in Manila a large temporary hospital to which the many hundred victims of small-pox could be taken. The great majority of them died. During the past five years not one person has died in Manila from small-pox who had been successfully vaccinated during the five previous years; nor has anyone died of small-pox in Manila since June, 1909. In 1907, systematic vaccination was completed in the six provinces near Manila. These provinces have a population of, approximately, one million, and from time immemorial until a few years ago the annual mortality from small-pox was at least 6,000. Since 1907, not one person has died of small-pox who had been successfully vaccinated, and only a few cases have occurred. In these few cases not a death occurred among vaccinated persons. This has been the experience in other provinces throughout the islands since the American occupation, and only in instances in which vaccination has been relaxed have cases of small-pox occurred, and then almost entirely among unvaccinated infants or among immigrants. This report contains many other convincing figures, but to the intolerant individuals who oppose vaccination, experience is a liar, and figures are intended only to conceal the truth. *Journal of the A. M. A.*, April 8, 1911.

The enactment as well as the enforcement of national pure food laws is due largely to the efforts of Dr. Harvey W. Wiley, the government chemist, and for years the large manufacturers, who have been hampered by the stringency of the pure food acts in their efforts to impose on the public by putting on the market adulterated, impure and even diseased food products, have sought the scalp of Dr. Wiley in the belief that if they could get him out of the way they would have easier sailing. But Dr. Wiley has made himself so popular with the people through his efforts to protect their interests that it is quite impossible for the food manufacturers to secure his removal from the service. Recently, however, through a technical error, which in any other department would probably have received no attention, the food manufacturers have found a reason for insisting on Dr. Wiley's dismissal, and their influence has been sufficient to cause a member of the President's cabinet, under whom Dr. Wiley serves, to request the President to demand Dr. Wiley's resignation. But this effort to obtain Dr. Wiley's release from the service brought a storm of protest from every part of the country, and from all classes of people, irrespective of political affiliations, and President Taft very wisely concluded that it would not be good policy to oppose public sentiment by requesting Dr. Wiley's resignation. Accordingly the incident will probably pass with nothing of more importance than a gentle reprimand to Dr. Wiley for having slightly overstepped his authority and the rules governing his actions. But we predict that those who have been harmed by the pure food laws, and who hold Dr. Wiley responsible for their troubles, will eventually get Dr. Wiley's scalp, for they are powerful and influential, and the time will come when their pressure will be sufficiently strong to secure Dr. Wiley's downfall whether he is guilty of any breach of trust or not. We hope, however, that if they ever do get Dr. Wiley out of his job someone else will be appointed to the position who will be equally as efficient and courageous as Dr. Wiley, and that the manufacturers who are opposed to Dr. Wiley will not be benefited by the change.

President Taft is to be highly commended for the prompt way in which he rose to the emergency of rescuing the Pure Food and Drugs Act from the floundering state into which it was thrown by the majority opinion of the United States Supreme Court when it ruled in favor of the defendant in the case of People v. Johnson, the cancer-quack. Nor can anyone help admiring Justice Hughes for the manly and humane logic which he injects into his minority ruling, concurred in by Justices Harlan and Day, as contrasted with the "idiomatic" construction put upon the law by the majority ruling. While it may seem strange that a law could exist, the spirit of which many offenders confess to having violated and for which they have stood punishment, and its technical flaws not have been detected during its several years of enforcement, yet it is perhaps fortunate that such flaws have been brought out during a régime which will lose no time in strengthening the law so as to cover both technically and explicitly all questionable points. Summed up in brief, the opinion handed down in the majority ruling of the Supreme Court was that while the present law demands accurate statements as to the contents and place of manufacture of the product, it does not specifically prohibit the labelling of such product as a "cure" for any or all diseases that may be named by the manufacturer. Such "idiomatic" interpretation is certainly straining a point when as a matter of fact, as pointed out by Justice Hughes, when the question was before Congress, that body refused to acknowledge any such limitations of the statute. Basing his warrant on the "logical" interpretation of the law, Dr. Wiley and his assistants have now under prosecution more than 150 cases of false labelling of alleged cures, embracing, as the President points out, "some of the rankest frauds by which the American people were ever deceived. * * * An evil which menaces the general health of the people strikes at the life of the nation." Unless Congress acts at this session, so amending the law as to cover misstatements concerning physiologic action and therapy, all these suits will have to be dismissed, and great harm will accrue to the health of the nation. President Taft's message on this subject is said to be one of the most strongly-worded special messages that ever left the White House and the friends of pure food and drugs have cause for congratulation in the possession of so warm a protector as Mr. Taft has proven himself to be.

There are many reasons why the coming session of the Indiana State Medical Association, to be held at Indianapolis, Sept. 28 and 29, should be the largest and best session of this association as yet ever held. In the first place the location of Indianapolis, the meeting place, is ideal geographically, it being as nearly the central area of the state as could be practicably chosen. Then, too, it being the largest city in the state, its transportation facilities, hotel accommodations, educational and amusement advantages, are all in its favor. As is well known, the profession of the city is in keeping with its size and progress, and it is but natural that there will be a somewhat larger representation from the Marion County Society present than as though the meeting were held elsewhere. Doubtless some few members of the Indiana profession were discouraged from attending the A. M. A. meeting at Los Angeles because of the extreme distance and rather irksome journey to and from the Pacific Coast. This fact should stimulate the interest of these men toward making our state meeting somewhat compensatory for their loss of attendance on the national meeting. The program committee is given leave and is expected to exercise a rigid censorship over the quality of papers presented, and its policy is for a limited number of papers, these to be of such excellence as to provoke interesting and extended discussion, the latter feature usually being the most instructive part of any medical meeting. And here we would offer the suggestion that when the preliminary program is published in The Journal, each member of the society select some one or more subjects on which to prepare himself as thoroughly as possible in anticipation of a part that he will lend in the discussion. It is impossible for either essayists or regularly-appointed discussion-leaders to cover the whole subject of most any topic on the short time allotted, and such a plan as here suggested would be conducive to a prompt and thorough resumé of those subjects brought out in the program. The question of medical defense through the State Society will be the subject for more detailed report with recommendations from the committee appointed last year to investigate the subject. Final action will doubtless be taken, and every member of the Association should be present to hear and learn of the advantages to be afforded him by a measure which is already very successfully operating in several states. Medical defense for $1 per year, the amount of increase of state dues, is

certainly more economical than the same thing for ten or fifteen times that amount, provided it is equally as efficient. Come and hear whether or not it is!

It may not be generally known that membership in the A. M. A. ceases thirty days after the Association is notified that state society membership has ceased. For instance, in Indiana dues to the State Association are payable January 1, and become delinquent February 1, on which latter date the secretary of the Indiana State Medical Association sends a list of the members to the A. M. A. office. Any Indiana member of the A. M. A. who has not paid state association dues by February 1st is dropped from membership in the A. M. A. within thirty days, and any advance dues are returned to him. This indicates the importance of keeping up state association membership and paying dues promptly, for if membership is carried over beyond the dates fixed by rule for membership to cease, such leniency is due entirely to the failure of the state association secretary to promptly report the list of delinquents.

The A. M. A., at the Los Angeles Session, through an appropriate set of resolutions approved the new Owen Bill creating a Department of Public Health. The resolutions are as follows:

Whereas, Hon. Robert L. Owen, Senator from Oklahoma, has introduced in the Senate of the United States, Senate Bill No. 1 creating a Department of Public Health for the purpose of giving the proper study to the causes of disease; and,

Whereas, Such department has been formally approved in the platforms of all our great political parties, and by President Roosevelt and President Taft, in order that our country might be placed on a plane with the other civilized nations of the world in the conservation of our greatest national asset—the health and lives of our people; and,

Whereas, Through sinister and corrupt efforts of the patent medicine manufacturers, and those opposed to the honest administration of the Pure Food and Drugs Law many worthy persons have been misled into believing that this great measure, designed solely for the protection of the public health and for the prevention of disease, is designed to have any jurisdiction in limiting the practice of medicine; now, therefore, be it

Resolved, That the American Medical Association pledges its support to the principles of the Owen bill, Senate bill No. 1, creating a Department of Public Health, that it repudiates and denounces the misrepresentation of this measure and the base slanders against the medical profession distributed through the corrupt efforts of the interests which are behind the so-called League of Medical Freedom, that it declares itself as distinctly opposed to any efforts now or hereafter by the Congresses to regulate or control the practice of medicine, or to discriminate for or against any school or system of practice; and in order better to give effect to the principles herein set forth, be it further

Resolved, That the Board of Trustees of the Council on Health and Public Instruction, The Journal and every other agency of this association, be and are hereby instructed to use every honorable means to secure the passage of this measure; and that the Committee on National Health Legislation be continued with the addition of Dr. J. B. Murphy, the president of the association, and Dr. G. B. Young, representing the United States Public Health and Marine-Hospital Service, and that this committee, acting with the Council on Health and Public Instruction, shall consider and determine all matters and policies relating to national health legislation, and may invite the co-operation of and cooperate with both every State and county medical association, and all other organizations having the same purpose in view.

Dr. B. D. Myers, secretary of the Indiana University School of Medicine, has sent us the following information concerning the appointment of a new dean:

"The trustees of Indiana University have just appointed Dr. Charles P. Emerson, author of the text on Clinical Diagnosis, as dean of the Indiana University School of Medicine and head of the Department of Medicine.

For some months President Bryan has had this important appointment under consideration. He made a special trip East for the purpose of consulting with Dr. Welch, Dr. Flexner and others, with reference to it.

Dr. Emerson is recommended by Drs. Welch, Flexner, Barker, Thayer and others, as one whose sound professional training, remarkable executive ability and love for the work of teaching, investigating and organizing, render him one of the best men in America for such an appointment.

Dr. Emerson will take up his residence in Indianapolis the first of September and enter on his teaching and executive duties with the opening of the fall term. These will consume the greater part of his time. Dr. Emerson will do no general practice whatever, but will be permitted to have a practice strictly limited to consultation cases. It is definitely agreed, however, that his first duties shall be to his university work, and that all consultation work shall be strictly secondary to this and shall not encroach in the least on it.

Dr. Welch says of him: "I do not think you could find a better man. He has had a large and valuable experience, is an excellent organizer and commands all the resources of modern medicine. He has fine ideals and loves the work of teaching, investigating and organizing."

Dr. Barker writes: "Dr. Emerson is an unusually well trained man and his book on clinical diagnosis is the best laboratory manual on the subject in English. He is an excellent organizer and disciplinarian, a good teacher and forceful speaker. He was also much interested

in social settlement work and in the service department of the Johns Hopkins Hospital."

Professor W. D. Howell, dean of Johns Hopkins Medical School, writes: "Dr. Emerson has a very wide knowledge of medical matters and on the side of the medical school and of the hospital, both as regards American and foreign institutions, and he is an experienced administrator."

Dr. W. S. Thayer, professor of clinical medicine, Johns Hopkins University, writes: "No one has better knowledge of what the medical department of the university ought to be and few men would have so good judgment as to the men who might be attracted to the institution as he. I think I may say I know of no one who combines such remarkable executive ability with such sound medical training and powers as he."

DEATHS

Dr. J. A. Morrison, aged 61, residing at his farm northwest of Montpelier, Ind., died July 11, after an illness of two years.

Dr. Joseph O. Andrews, aged 80 years, died at his home in Greenfield, July 10. Dr. Andrews was a pioneer physician in Hancock County, having practiced there nearly fifty years.

Dr. E. R. Tevis of Brooksburg died at his home June 30, aged 55 years. He was born in Jefferson County, March 10, 1856. Very early in life he decided to take up the study of medicine, and graduated from the Medical University of Louisville, Ky., with honors in 1880.

Dr. Jefferson Cooperider died at his home in Madison, July 2, from paralysis. Dr. Cooperider was born in Jefferson County in 1838, living there his entire life, except for fifteen years when he resided in Bartholomew County. He was a graduate of the Cincinnati Medical College. He was a member of the Jefferson County Medical Society, and for several years has been the very able secretary of the Madison Board of Health.

Dr. Ezra William DePew of Wolf Lake died at his home, June 17, aged 73 years, after an illness of several months. He was a native of Indiana, having been born at Leo, Allen County, October 30, 1837. Early in life he became a student at Liber College, Portland, later studying medicine in the office of Dr. Myers at Fort Wayne. He attended the medical department of Michigan University, and also the University of Louisville, Ky. He was a member of the Indiana State Medical Association.

MEMORIAL TO DR. J. W. STRAUGHAN

John Wesley Straughan was born in Shelby County, Kentucky, October 8, 1831. His parents moved to Putnam County, Indiana, in 1833. His early life was that of the pioneer boy of his time. After securing, under great difficulties, enough education to teach school, he followed that pursuit during the winter months and studied medicine in the summertime with Dr. William Mathies, at that time a noted physician of Putnam County. In 1852 he entered the Indiana Medical School, attending one term. The next fall he entered the University Medical School of New York, graduating therefrom in the spring of 1854. He immediately located at the then prosperous village of Parkersburg, Montgomery County, where he had an extensive practice, undergoing all the hardships incident to the practice of medicine in an early day. He always had a desire to finish his course at the Indiana Medical College, which he consummated, graduating from that institution in 1881. He was a man well qualified and always stood for the uplift of the profession and its moral ethics. He was always ready to assist with his ripe experience and advice any of his personal neighbors who called on him. He was a most indefatigable reader, not confining his reading to medical works alone, but delving into anything that had a scientific flavor. He was not only prominent in medicine, but socially and in politics as well, having represented Montgomery County in the legislature in 1883.

On February 1, 1853, Dr. Straughan married Sarah Josephine Harrison, who still survives him. As a result of this union were born Robert S. Straughan of Parkersburg, K. K. Straughan and Ida May Williams of Waveland.

Dr. Straughan died suddenly at Waveland on June 13, 1911, from cerebral hemorrhage, in the eightieth year of his age. He was the head of a family of physicians. K. K. Straughan, a son, and W. L. Straughan, a grandson, both being practicing physicians at Waveland. He was almost a lifelong member of the Montgomery County Medical Society and was four times elected as its president. He was a member of the Indiana State Medical Society and the American Medical Association. As a practitioner he exhibited those qualities of thoroughness in diagnosis, skill in management and fidelity to the patient's

interests which endeared him to those who came under his professional care. In all his relations in life, absolute sincerity and frankness marked his conduct. He was the "good man skilled in healing" and more, he was a good citizen, rendering in full measure the obligations due the community. To his family, he was the ideal husband and father, leaving to them the priceless heritage of a spotless character and splendid achievement. To them we tender our deepest sympathy in their great sorrow. We grieve also at the loss of our brother, but rejoice in the splendid life that he lived.

The above memorial was adopted by the Montgomery County Medical Society, July 18, 1911.

W. F. Batman,
O. H. Jones,
J. L. Beatty,
Committee.

NEWS, NOTES AND COMMENTS

Desirable practice offered for sale. See advertising pages.

Desirable Eastern Indiana practice offered for sale at a bargain. See advertising pages.

Desirable practice in interurban town of 300 for sale at a bargain. See advertising pages.

Dr. Augustus L. Marshall of Indianapolis is attending the New York Post-Graduate School.

Physicians interested in the purchase of a static machine or *x*-ray outfit will find same offered at a bargain in the advertising pages.

A reunion of the members of the Class of 1904, M. C. I., will be held in the College Library, Indianapolis, at 4:30 p. m., on September 28, 1911.

Dr. Charles G. Beall of Fort Wayne sailed for Europe early in July, and will spend a year in postgraduate study in Vienna and other European medical centers.

Dr. Charles R. Keyser of Miltonsburg, Ohio, desires to locate in Indiana for the practice of medicine, and is advertising in this number of The Journal for a location.

Drs. F. A. McGrew and George R. Osborn of LaPorte have formed a partnership. Dr. McGrew left August 1 for the west and will do some postgraduate work before he returns.

Dr. C. W. Cleveland, deputy coroner, Michigan City, has recently resigned, and is now located in Chicago. Dr. E. G. Blinks was appointed deputy coroner to fill the vacancy.

Dr. Fred Metts has sold his office and practice at Ossian to Dr. D. C. Wybourn of Sheldon. Dr. Metts will take a post-graduate course in New York City and will then locate in Bluffton.

Dr. J. N. Hurty, secretary of the Indiana State Board of Health, was the guest of the Oregon State Medical Association at the session held in Portland, July 10, where he gave an address on "The New Hygiene."

Dr. F. C. Heath of Indianapolis, President of the Indiana State Medical Association, took his vacation in August, and spent it visiting his old home on the coast of Maine. While there he celebrated the eightieth birthday of his mother, and participated in a family reunion with all the living members of the family present.

Dr. Will Kemper left July 24 for his new home near Lancaster, Ohio, making the trip alone in his automobile. Dr. Kemper has built a handsome new house on his farm, and after getting it ready for occupancy will be joined by Mrs. Kemper. On account of his health Dr. Kemper found it advisable to leave his practice. It is hoped that his change of residence will be of benefit.

At a recent meeting of the Northern Tri-State Medical Association, held in Toledo, the following officers were elected: President, Dr. Charles M. Smith, Toledo; vice-president, Dr. Victor C. Vaughan, Ann Arbor, Mich.; secretary, Dr. George W. Spohn, Elkhart (reelected); treasurer, Dr. Joseph A. Weitz, Montpelier, Ohio (reelected). The next meeting will be held in Fort Wayne in December.

The Thirteenth District Medical Society will hold its semi-annual meeting at Wawasee Inn, Wawasee Lake, Tuesday, September 5. There will be a morning business session starting at

10:30. At this time there will be an election of officers, selection of next place of meeting, report of committees, etc. The afternoon meeting will start at 1:30 and will be left clear for the scientific papers and discussions. This will be followed by a 6 o'clock banquet and toasts.

Since June 1 the following articles have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. for New and Nonofficial Remedies:

Cargentos Aseptic Vaginal Tampons, H. K. Mulford Co.

Cargentos Dusting Powder, H. K. Mulford Co.

Cargentos Ointment, H. K. Mulford Co.

Cypress Oil, Schimmel & Co.

Scarlet R Medicinal, Biebrich, Heilkraft Med. Co.

Scarlet R Salve, Heilkraft Med. Co.

The Council has reconsidered and withdrawn the acceptance of Iodone.

Following is the list of newly-elected officers of the American Medical Association:

President—Dr. Abraham Jacobi, New York City.

First Vice-President—Dr. W. Jarvis Barlow, Los Angeles.

Second Vice-President—Dr. F. W. McRae, Atlanta, Ga.

Third Vice-President—Dr. W. R. Tipton, Las Vegas, N. M.

Fourth Vice-President—Dr. A. L. Wright, Carroll, Iowa.

Secretary—Dr. Alexander R. Craig, Chicago, Illinois.

Treasurer—Dr. William Allen Pusey, Chicago, Illinois.

Trustees—Dr. Philip Marvel, Atlantic City, N. J.; Dr. Philip Mills Jones, San Francisco, Cal.; Dr. M. T. Sarles, Sparta, Wis.

At the Los Angeles session of the A. M. A. the following award of prizes in the Scientific Exhibit was made:

(A) For the best research exhibit:

(1) Gold Medal awarded to the exhibit of the United States Public Health and Marine-Hospital Service for its exhibit of preparations and material concerned with research in plague and leprosy.

(2) Certificate of Honor for research exhibit on investigation of pernicious malarial infection with reference to malarial hemolysins, awarded to Dr. Walter V. Brem, Colon Hospital, Cristobal, Canal Zone.

(3) Certificate of Honor for research exhibit on nephritis, awarded to Drs. William Ophuls and Ernest C. Dickson, Cooper Medical College, Leland Stanford University.

(4) Certificate of Honor for research exhibit on classification and identification of the parasites of the order of Trematoda, awarded to Drs. Henry B. Ward and E. F. Hirsch, Zoological Department, University of Illinois.

(B) For the best general exhibit:

(1) Gold Medal awarded to Pathological Exhibit of Hendryx Laboratory of the Los Angeles Medical Department, University of California.

(2) Certificate of Honor awarded to Cooper Medical College, Leland Stanford University.

During July 847 specimens were examined at the Bacteriological Laboratory of the Indiana State Board of Health. Of 354 samples of sputum examined, 124, or 35 per cent., contained tubercle bacilli. This is 5 per cent. higher than the average for last year and is due to the improved method now being used on all such specimens, namely, digesting the sputum with alkali, centrifugalizing and examining the sediment from the entire mass. The heads of twenty-three animals were examined for rabies and eight found positive. The rabies situation in the state is showing a distinct improvement, due largely to the very efficient manner with which the local health officers deal with a threatened epidemic under the hydrophobia law passed by the last legislature. An investigation is being made of the epidemic of dysentery at Terre Haute. An autopsy on one of the victims showed typical lesions of acute ileocolitis (bacillary dysentery). The bacteriologic examination is not yet complete.

Immediately preceding and following the Indianapolis session of the Indiana State Medical Association, interesting surgical and medical clinics will be held at the City Hospital of Indianapolis on the afternoon of September 27 and September 29, and at the City Dispensary, Indianapolis, from 8 to 9:30 a. m. September 29 and all the morning of September 30. The medical and surgical sections of the Association will hold their scientific meetings at the City Hospital the afternoon of September 28, when papers will be read and discussed in connection with the exhibition of illustrative cases. Members of the hospital and dispensary staffs on attending service will be in charge of these clinics.

The Committee on Arrangements requests that those desiring to hold clinics at institutions other than the City Hospital and City Dispensary schedule them so as not to conflict with the scientific proceedings of the Association.

A full and detailed schedule of all clinics will be published in the September number of The Journal.

Dr. W. N. Wishard, long connected with the State Board of Health, has resigned and Dr. James G. Boyers of Decatur has been appointed to fill out the unexpired term. Dr. Wishard's resignation was voluntary and was offered in order to eliminate the possibility of politics entering into the administration of the board's affairs. The other new appointments are as follows: Dr. J. R. Hicks of Covington, a regular, to succeed Dr. George W. McCoy of Columbus, also a regular, and the reappointment of Dr. T. H. Davis of Richmond, a homeopath. The other member of the board, aside from Dr. Boyers, who is appointed to fill the unexpired term of Dr. Wishard is Dr. F. A. Tucker of Noblesville, a regular. With the resignation of Dr. Wishard the oldest member of the board leaves the service of the state. He sacrificed nearly two years of his time on the board in order to eliminate politics from the organization. The political complexion of the commission which makes the selection of the health board members is dependent on state elections and if two members of the same political party were to leave at the same time Dr. Wishard believed that politics might enter into the appointment. With two members of opposite political faith leaving at the same time this will be more nearly obviated, he believed.

Indiana was well represented at the Los Angeles session of the American Medical Association. According to official records sixty-two Indianians registered, and their names and addresses are as follows:

Barnett, Charles E., Fort Wayne.
Barnhill, John F., Indianapolis.
Baumgartner, Otto C., Rockport.
Bowers, H. C. Scircleville.
Boyers, James S., Decatur.
Bryan, Tony L., Evansville.
Bulson, Albert E., Jr., Fort Wayne.
Calvin, Warren D., Ft. Wayne.
Carrithers-Calvin, Jessie, Ft. Wayne.
Carson, L. O., New Augusta.
Caylor, Chas. E., Pennville.
Clevenger, William F., Indianapolis.
Cook, George J., Indianapolis.
Cook, John Wallace, Pendleton.
Cook, L. H., Bluffton.
Daugherty, Charles A., South Bend.
DeHass, Thomas W., Indianapolis.
Dierking, A. W., Oolitie.
Dugdale, R. B., South Bend.
Duncan, J. B., Bedford.
Durrie, Anna B., Lafayette.
Eberhard, E. L., South Whitley.
Eshelman, L. H., Marion.
Foxworthy, Frank W., Indianapolis.
Garber, J. B., Dunkirk.
Gillespie, J. L., Greencastle.
Hobbs, Alice L., Indianapolis.
Holder, R. E., Columbus.
Holliday, D. A., Fairmount.
Hurty, J. N., Indianapolis.
Hutcheson, W. R., Greencastle.
Jacobs, Harry A., Indianapolis.
Kerrigan, John W., Michigan City.
Ketcham, Jane Merrill, Indianapolis.
Kitson, Frank S., North Manchester.
Lorenz, John W., Evansville.
McDonald, William B., New Augusta.
Maxwell, Allison, Indianapolis.
Miller, E. D., Logansport.
Morgan, E. E., Ft. Wayne.
Murray, D. P., Dunkirk.
Palmer, Adelbert L., Logansport.
Powell, Nettie B., Marion.
Rietz, Paul C., Evansville.
Robinson, Elwood, Rossville.
Schell, Walker, Terre Haute.
Schmauss, L. F., Alexandria.
Schweitzer, Ada Estelle, Indianapolis.
Sexton, J. C., Rushville.
Spohn, George W., Elkhart.
Strickler, Stephen Louis, Boggstown.
Thompson, G. W., Winamac.
Thompson, Thomas L., Indianapolis.
Varner, G. W., Evansville.
Veazey, W. M., Avilla.
Walker, Edwin, Evansville.
Willson, S. C., Anderson.
Wishard, Wm. N., Indianapolis.
Wolferman, A. Gertrude, Indianapolis.
Woolery, Perry, Heltonville.
Wynn, Frank B., Indianapolis.
Yocum, M. G., Mentone.

CORRESPONDENCE

THE BANQUET AT THE INDIANAPOLIS SESSION

Editor The Journal.—As previously announced, a banquet, open to all members of the Indiana State Medical Association and their ladies will be given at the Indianapolis session in September. The committee appointed by President Heath, and charged with the responsibility of the affair, is pleased with the progress of preparation to date, and believes that the function will be a social epoch in Indiana medicine. Among those who have already consented to respond to toasts are: Governor Thos. R. Marshall, Senator Owen, champion of the health bill in the Senate, and Rev. F. S. C. Wicks. Dr. Wm. H. Welch will probably respond, and the committee is expecting to hear favorably from others eminent in literature and art. Dr. A. E. Sterne, whose reputation in gastronomics is unquestioned, has been given full authority to arrange the menu, thus assuring proper service, quantity and quality. It is hoped that all who contemplate attendance at this session may arrange to attend this banquet. The committee offers assurance that it will be no commonplace affair.

John F. Barnhill, Chairman Committee.

INDIANA STATE MEDICAL ASSOCIATION

The following is a list of those who have paid Association dues between the dates June 1 and Aug. 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the June number includes all those who paid dues to June 1, or up to 2264, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the March, April, May and June numbers constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address.	County Society.
2265	T. W. Wilson, New Harmony	Posey
2266	J. H. Sowers, North Webster	Kosciusko
2267	D. S. Adams, New Bethel	Marion
2268	Ord Everman, Indianapolis	Marion
2269	Fred C. Warfel, Newton Claypool Bldg., Indianapolis	Marion
2270	W. F. Hughes, Newton Claypool Bldg., Indianapolis	Marion
2271	Thomas L. Thompston, Pasadena, Calif.	Marion
2272	Bernard Erdman, Newton Claypool Bldg., Indianapolis	Marion
2273	John Kolmer, Board of Trade Bldg., Indianapolis	Marion
2274	P. L. Mull, Oldenburg	Franklin
2275	E. G. Coverdale, Decatur	Adams
2276	R. L. Lee, New Castle	Henry
2277	C. A. Roark, Milton	Wayne
2278	Royse Davis, Decker	Know
2279	W. E. Kessinger, Bicknell	Know
2280	W. P. Boal, Bicknell	Know
2281	A. C. Barnes, Southport	Marion
2282	W. B. McDonald, New Augusta	Marion
2283	J. Rilus Eastman, 331 N. Delaware St., Indianapolis	Marion
2284	H. M. Woolen, American Central Life, Indianapolis	Marion
2285	Edward A. Willis, The Chalfant, Indianapolis	Marion
2286	Robert Fischer, 2810 N. Illinois St, Indianapolis	Marion
2287	Jas. H. Brill, 608 N. New Jersey St., Indianapolis	Marion
2288	Geo. W. Lee, West Newton	Marion
2289	F. V. Stucky, Gosport	Owen
2290	A. I. Munson, Evansville	Vanderburgh
2291	Gladys A. Cooper, Evansville	Vanderburgh
2292	O. N. Deardorff, Hagerstown	Wayne
2293	F. A. Dennis, Crawfordsville	Montgomery
2294	H. H. Tallman, Culver	Marshall
2295	E. M. Glaser, Brookville	Franklin
2296	A. G. Chittick, Frankfort	Clinton
2297	W. C. Mount, Kirklin	
2298	Geo. W. Twomey, Jeffersonville	Clark
2299	J. E. Stultz, Fort Wayne	Allen
2300	T. M. Weaver, Cory	Clay
2301	W. H. Harrison, 123 Clark Ave., Austin Station, Chicago	Hendricks
2302	Hannah Graham, Merion Bldg., Indianapolis,	Marion
2303	J. L. Masters, 320 N. Meridian St., Indianapolis,	Marion
2304	Roy Egbert, 2654 Roosevelt Ave., Indianapolis,	Marion
2305	J. F. Robertson, 2312 E. Michigan St., Indianapolis	Marion
2306	H. J. Weil, 2103 E. Michigan St., Indianapolis,	Marion
2307	C. D. Humes, 1820 E. Tenth St., Indianapolis,	Marion
2308	C. E. Stephenson, 1715 Prospect St., Indianapolis,	Marion
2309	S. P. Scherer, 513 N. Delaware St., Indianapolis,	Marion
2310	Geo. S. Row, 401 N. Penn St., Indianapolis,	Marion
2311	R. N. Todd, 2026 N. Senate Ave., Indianapolis,	Marion
2312	J. E. Morris, 1401 S. East St., Indianapolis,	Marion
2313	Marie Haslep, 2005 College Ave., Indianapolis,	Marion
2314	G. V. Woolen, American Central Life Bldg., Indianapolis	Marion
2315	Chas. A. Carter, 309 Tacoma Ave., Indianapolis,	Marion
2316	Paul B. Coble, Penway Block, Indianapolis,	Marion
2317	Edwin G. Kyte, Martinsville,	Marion
2318	J. Q. Davis, Van Vorhis Bldg, Indianapolis	Marion
2319	E. B. Miller, Fountaintown	Hancock
2320	L. A. Jeffries, Bourbon	Marshall

ELKHART COUNTY

The May meeting of the Elkhart County Medical Association was held in the office of Dr. I. J. Becknell, Goshen. Dr. W. B. Christophel, New Parks, read a paper on "External Manipulation of the Gravid Uterus." The subject was well presented and was thoroughly discussed.

A motion prevailed dispensing with the scientific program for the June meeting and providing for the appointment of a committee to arrange for an afternoon and evening at some lake resort.

On June 22, the plans of the committee were carried out. Forty-one members, accompanied by their wives (in some instances sweethearts), journeyed in automobiles to Christiana Tavern on the banks of Christiana lake, located ten miles north of Elkhart, just across the Michigan line. The afternoon was spent in fishing, shooting, horseshoe pitching and various other amusements such as mending automobile tires and cleaning spark plugs. At 6 o'clock a sumptuous fish and chicken dinner was served. The affair was a really enjoyable one, and every person participating in it felt repaid for being present. The committee on arrangements feels highly gratified to report that more than two-thirds of the membership was present at the meeting.

Adjourned. Enos Musser Hoover, Secretary.

KNOX COUNTY

The June meeting of the Knox County Medical Society was held in Bicknell on the 13th. The trip was made in automobiles. An excellent spring chicken supper was provided by the Bicknell members, to which all did justice.

Dr. B. B. Griffith presented a paper on "The Exanthemata; Their Causal Relation to Diseases of the Ear," in which he made a strong plea for attention to the nose and throat.

Dr. W. H. Davenport read a paper on "Minor Surgery," which was very well written and practical. He brought out many little points so necessary to good results, and so apt to be overlooked.

Drs. F. L. Reece, Bicknell and O. L. Belcher, Monroe City, were elected to membership.

All joined in a vote of thanks to the Bicknell members for their hospitality.

Adjourned. Chas. S. Bryan, Secretary.

MONTGOMERY COUNTY

At a regular meeting of the Montgomery County Medical Society, July 18, the Pure Food law was the topic for discussion. The unanimous opinion was that it had been of great benefit to the people in general, and that its rigid enforcement was desirable. It honored its Hoosier colleague, Harvey W. Wiley, M.D., as the originator of "Pure Food" laws, by sending a letter to the President, requesting the retention of Doctor Wiley, and fully endorsing his indefatigable labor in enforcing the laws that have been so fiercely fought by "The Interests." The profession recognizes the fact that the law has done much in furnishing more pure drugs for its use, and that the people have been safeguarded to a great extent, in knowing what they were eating. Many states have passed laws regulating the manufacture and distribution of food. The canning industries must now label their goods, as to what kind of preservatives they use. The patent medicine concerns must state on each bottle, the amount and of what kind of "habit forming" drugs enter into their preparations. The wholesalers and retailers of food are held responsible to the public, as to the edible character of what they sell and as to the cleanliness of the same.

A letter to President Taft was ordered by the society, endorsing Dr. Wiley's action in the administration of the law.

Adjourned. J. L. Beatty, Secretary.

PARKE COUNTY

The Parke County Medical Society met in regular session, June 6, at 2 p. m., in the Indiana Tuberculosis Hospital, the guests of Drs. H. B. Leavitt and W. A. Gekler.

Dr. Gekler read an interesting paper on the subject "The Early Diagnosis of Pulmonary Tuberculosis." In his discussion Dr. Gekler emphasized the importance of the early diagnosis of tuberculosis. He considered the *x*-ray of great aid in making an early diagnosis of many cases. Tuberculin was discussed, but was considered of value only when used by experienced men. Dr. Henry Moore, president of the board of trustees of the hospital, was present and joined in discussion of the paper.

At the close of the regular program Dr. Leavitt invited the society to inspect the hospital, after which lunch was served.

The meeting was one of the best in the history of the society, and the attendance was large.

Adjourned. A. B. Lockridge, Secretary.

SPENCER COUNTY

The Spencer County Medical Society met in regular session with Dr. C. S. Baker, Chrisney, July 18. Minutes of previous meeting read and approved.

Dr. G. B. DeTar discussed the subject, "Gall-Stones." The author said that gall-stones were formed by the combination of cholesterin and bile pigment in the gall-bladder, and were brownish in character. A person may have repeated attacks which are always very sudden.

Dr. J. C. Glackman reported a recent experience in which cholelith pills and olive oil were prescribed, but without effect—operation being necessary to relieve the condition. About one hundred and fifty stones were removed.

The next meeting of the society will be held at Hatfield, August 15.

Adjourned. H. Q. White, Secretary.

BOOK REVIEWS

Diseases of the Stomach and Intestines. By Boardman Reed, M.D. Octavo of 1050 pages. Illustrated. Third edition. New York. E. B. Treat & Company. 1911. Cloth, $5.00.

The fact that this work is in its third edition, the first edition having appeared seven years ago, is a good indication of its popularity. The author has had the assistance of a number of competent men in writing special chapters. In addition to fully describing the symptomatology, diagnosis, and treatment of diseases of the stomach and intestines, the important subject of gastro-intestinal affections in relation to other diseases is discussed. The portion of the book devoted to treatment includes the application of electricity in its various forms, mechanical vibration, massage, hydrotherapy, and exercise. The reviewer feels that the work could be somewhat condensed with advantage.

Golden Rules of Pediatrics. Aphorisms, Observations and Precepts on the Science and Art of Pediatrics. Giving Practical Rules for Diagnosis and Prognosis, the essentials of Infant Feeding, and the Principles of Scientific Treatment. By John Zahorsky, A.B., M.D., Clin. Prof. of Pediatrics, Med. Dept. of Washington Univ., St. Louis, Ex-Pres. St. Louis Pediatric Soc., etc. With an introduction by E. W. Saunders, M.D., Emer. Prof. of Dis. of Child. and Clin. Midwif., Med. Dept. Wash. Univ., St. Louis. Cloth, pp. 284. Price $2.50.

A useful little compend of pediatric suggestions is here offered in which are embodied questions of diagnosis, prognosis, hygiene and infant feeding, and treatment, supplemented by a therapeutic formulary. The work is indexed from both a diagnostic and therapeutic standpoint.

At times the diction is clumsy and, in one or two places noted, erroneous, though many terse expressions of well-established facts find place. More frequent mention of malaria in infancy and childhood is made than would seem warranted at this age and in this country.

Diagnostic and Therapeutic Technic. By Albert S. Morrow, M.D., Adjunct Professor of Surgery, New York Polyclinic. Octavo of 850 pages, with 815 original line drawings. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net.

As the title of the book indicates the author gives the technic in performing various therapeutic and diagnostic measures which the general practitioner may at times be called upon to carry out. A few of the procedures detailed belong to the specialist but as the author rightly says in the preface the general

practitioner may be called upon at any time to do them.

Of the more important chapters may be mentioned those on anesthesia, infusions of normal salt solution, artificial active and passive hyperemia, and exploratory punctures. The special diagnostic and therapeutic measures applicable to certain organs such as the ear, nose, larynx, stomach, genito-urinary organs, etc., are fully described. The text is clear, concise, and where necessary illustrated by drawings. The book will be found to be of distinct value.

The Principles and Practice of Modern Otology. By John F. Barnhill, M.D., Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine; and Ernest deW. Wales, B.S., M.D., Clinical Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50; half morocco, $7.00 net.

With the demand for another edition of this practical volume, the authors have added to the text in the chapter on the examination of the function of the ear, which is entirely rewritten, the description and formula of a uniform system of tests accepted by the Eighth Otological Congress at Budapest in 1908, also a more extended statement regarding operative injury to the facial nerve, a description of the "conservative" radical mastoid operation, and several paragraphs relating to the symptoms, pathology and surgical treatment of labyrinth suppuration.

The authors have omitted commentation upon the very recent treatment of certain otitic diseases by vaccine therapy.

The book appears in the same well constructed form, with numerous clear illustrative plates. The directness of presentation of the subject matter is especially to be commended.

A Text-Book of Gynecological Surgery. By Comyns Berkeley, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., M.R.C.S. England, Gynecol. and Obstet. to the Middlesex Hospital, etc., and Victor Bonney, M.S., M.D., B.S.C. London, F.R.C.S. Eng., M.R.C.P. Lond., Assist. Gynecol. and Assist. Obstet. to the Middlesex Hospital, etc. With 392 figures in the text from drawings by Victor Bonney, and 16 colored plates. Funk & Wagnalls Co., New York, 1911. Cloth, pp. 720.

This rather compact volume is characterized by an individuality that gives evidence of both ripe experience and broad familiarity with the work of others.

The subject matter is both concise and condensed; hence a handy manual for the operating gynecologist is offered, and one, not the least of whose merits lies in its illustrations. These latter are really unusual in number and detail for a work of this size and almost transform the volume into the form of a descriptive atlas.

Some exception will be taken by American surgeons to the routine use of silk for ligature and suture purposes, as will there be differences of opinion about certain questions of operative technic: e. g., the inversion of the stump in simple appendectomy, etc.

Occasionally the diction is clumsy and at times erroneous, as for instance beginning at the bottom of page 228, "the left fore-finger of each hand" is spoken of.

Wertheim's radical operation for cancer of the uterus is gone into with rather extensive detail, and the chapters on postoperative complications are exceedingly interesting and well done.

Clinical Symptomatology. With Special Reference to Life-Threatening Symptoms and their Treatment. By Alois Pick, Prof. of Medicine, Univ. of Vienna, and Adolph Heeht, St. Anne's Hospital, Vienna. An authorized translation under the editorial supervision of Karl Konrad Koester, M.D. (Univ. of Vienna), Instructor of Clinical Medicine, Rush Medical College, Chicago. D. Appleton & Co., New York and London, 1911. Cloth, pp. 833. Price $6.00.

Owing to the modern tendency to get away from symptomatic treatment *per se*, in the effort to establish a therapy based on a fuller comprehension of etiology and pathology, the authors feel that there are times when material benefit to the patient may be lost sight of, if a symptomatic exigency is not combated. When the conquest of the etiologic factors becomes an impossibility, then the physician's duty leads toward efforts at amelioration of life-threatening or dangerous symptoms.

So that in this work one finds a combination of matter gleaned from volumes on medical practice, diagnosis and therapeutics, and coupled therewith a valuable feature in the form of pediatric symptomatology and treatment.

For the most part the work is of real excellence and occupies a peculiar field of its own but there are many typographical errors, such as the elision and transposition of letters, and an occasional error in the text, such as the word "vein" for "artery" in line 4, page 88.

Again one cannot always agree in entirety with any work on therapy, and so when the authors state that cleft-palate is not operable in the first year, they lay themselves liable to considerable censure from the surgical world. Likewise it is to be regretted that in the treatment of hemorrhagic disease of the new born, no mention is made of the recent brilliant results obtained by direct blood-transfusion or even the injection of fresh alien sera.

All told, however, the work fits into a rather empty niche in medical text-book literature and contains much ready and useful information in condensed form.

Vaginal Celiotomy. By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages, with 148 illustrations. Philadelphia and London: W. B. Saunders Co., 1911. Cloth, $5.00 net; half morocco, $6.50 net.

While not so enthusiastic concerning the vaginal route of entering the abdomen as some other advocates, as Dührssen and Mackenrodt, yet the author believes that "in the thorough correction of cystocele, descensus uteri, prolapse of the uterus; for the performance of simple hysterectomy, vaginal celiotomy has a value so great that the abdominal route should scarcely enter into consideration." Even this, it seems to us, is putting it rather strongly, in view of the fact that there are many very good operators who still prefer the abdominal route for their routine method of hysterectomy. The removal of rather extensive fibroid tumors of the uterus by prolonged and tedious morcellement certainly does not appeal to one as being the ideal method of dealing with such lesion provided there are no contra-indications to a supravaginal hysterectomy, or possibly a myomectomy, either of which could probably be done in much less time. Nor would we be willing to concede the superiority of the vaginal route for ventral suspensions, especially where there was a possibility for future pregnancy. And as for

dealing with any serious lesions of the adnexa, it seems almost beyond discussion to think of removing the average pus tube, with its numerous and intricate adhesions by any other than the abdominal route.

Doubtless, however, the field could be widened somewhat over its present position in gynecological surgery, and to advantage in many cases, but we believe that its scope will ever be limited largely to the plastic repair of the relaxed pelvic outlet, plus a few of the simpler hysterectomies.

The book is beautifully gotten together and the illustrations are of the most elaborate and painstaking type. So profuse are they indeed and at the same time so graphic that the work becomes almost a vaginal, surgical anatomy.

Practical Treatment. Volumes I and II. A Handbook of Practical Treatment. In three volumes. By seventy-nine eminent specialists. Edited by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania. Philadelphia and London. W. B. Saunders Company, 1911. Per volume: cloth, $6.00 net; half morocco, $7.50 net.

Two of these three volumes have already come from press and, no doubt, the third is shortly to appear. While the modern method of compiling encyclopedic works, especially of such a subject as treatment, may not be considered as conducive to careful study of the underlying principles of the etiology and pathology of disease, the convenience of having an adequate exposition of each subject by a specialist is unquestionable.

The first volume is devoted to a discussion of various therapeutic measures from a general viewpoint, but also includes certain sorts of specific therapy as organo, serum, bacterio, vaccine and hemotherapy. Emphasis is laid upon the dietetic regulations and physiologic methods of treatment, in addition to drugs, which, though of material value and often of much importance, are no longer the chief reliance in the management of disease. The surgical aspects of the treatment of certain borderland and other diseases are discussed often from the viewpoint of both a physician and a surgeon.

The section by Hektoen on the General Principles of Serum Therapy, that by Musser concerning the Fundamental Principles of Therapeutics, and those by Cabot on Diseases of the Blood and by Dock on Diseases of the Lymphatic System are the most scholarly and comprehensive essays in the first volume.

Volume II deals with the modern therapy of diseases of the cardiovascular system and those of infectious origin. Sir Clifford Allbutt's treatment of the former subject is a very inclusive monograph in his characteristic style, pleasing and highly instructive. It would seem that the apportioning of space might have been lessened in some instances and profitably increased in others. The section on typhoid is unnecessarily long while that given to gonococcic and syphilitic infections exceedingly short, considering the relative importance of the infections. Two interesting divisions covering the Ocular and Aural Complications of the Infectious Diseases are included in this volume.

The careful discrimination with which the various subjects are apportioned to men whose efforts and conclusive observations have been directed along these particular lines in medicine, make this compilation an unusually authoritative one.

Medical History of Indiana. By G. W. H. Kemper, M.D., author and publisher, Muncie, Indiana. In cloth 425 pages. Price $2.50.

This book represents a large amount of time and expense upon the part of the author, who for many years was the Chairman of the Committee on Necrology, and for several years has been the medical historian of the Indiana State Medical Association. For the most part the book is a reproduction of the series of articles on the Medical History of Indiana which have appeared in the columns of The Journal during the last three years, though before being bound in book form the articles have been carefully revised and corrected in order to make them absolutely authentic in every particular.

As the author says in his circulars, which are about to be mailed, "it is the first and only medical history of Indiana ever published, and it is rightfully a book for the closing period of our first state centennial." It contains an introductory chapter by Dr. A. W. Brayton, editor of the *Indianapolis Medical Journal*, who is also familiar with much of the medical history of the state.

The book contains, among other things, the names of 2,000 deceased physicians of Indiana; the names of Indiana surgeons in the Mexican, Civil and Spanish-American wars; the names of physicians present at the first medical convention held at Indianapolis, June 6, 1849, and the names of all members of the State Medical Society from its organization in 1849 to 1860, and a list of the presidents and vice presidents of the Indiana State Medical Association from 1849 to 1911. It contains biographical sketches, reminiscences, mention of operations, epidemics, date of enactment of state medical laws, time and place of holding sessions of the Indiana State Medical Society and Association, organization of the State Medical Society, references to various articles, books, etc. It contains 37 illustrations, 31 of these being pictures of prominent deceased physicians and teachers of Indiana. It contains a carefully prepared index which gives in alphabetical order the names of 2,050 physicians. The author prides himself upon the correctness and accuracy of references and the thoroughness with which the history has been prepared.

We can only add that the author has been indefatigable in his efforts to produce a book that thoroughly and accurately covers the medical history of the state from the time of organization down to the present time, and he has left a monument which will ever be a tribute to his energy and enterprise as well as a lasting benefit to the physicians of the future who may be interested in knowing something about the early medical history of Indiana. It was fortunate that Dr. Kemper possessed many old and valuable records pertaining to the early medical history of the state, and that he was able to utilize these, together with the information which has been collected from various sources, in compiling a book which within a few years would not be possible to produce owing to the loss of records and the death of many people who at present know something about the early medical history of Indiana and have been able to offer their services to Dr. Kemper in preparing his valuable work. The book is one which we believe a majority of the progressive physicians of Indiana will want on their library shelves, and we bespeak for Dr. Kemper a large sale for his book.

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ORIGINAL ARTICLES

BRAIN TUMOR: BASED ON A STUDY OF TWENTY-FIVE CASES

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FT. WAYNE, IND.

The incidence of brain tumor, if all the unrecognized cases could be brought to light, would be very much greater than is commonly supposed. In a statistical study made in the Johns Hopkins Hospital on 3,150 cases, 1.7 per cent. were found to be brain tumors. These cases are practically all seen by the general practitioner first and treated by him for an indefinite time for various ailments. There seems to be little doubt that many cases run their entire course to a fatal termination unrecognized. Oppenheim says, "that when a general practitioner, of much experience, makes a statement that he has not seen a case of brain tumor in his practice, it means that they have have passed through his hands without a diagnosis being made." The responsibility of the general practitioner in the premises is certainly very great. He is not expected to make an early diagnosis. Indeed this sometimes cannot be done by any one. There are, however, certain symptoms so strongly indicative of organic brain disease that he is clearly obligated to either make himself competent to interpret them or refer the patient to some one who can. This is rendered all the more important by our increasing ability to deal successfully with these cases from a surgical point of view. There are many cases living to-day, years after the removal of brain tumors. One patient in my own series of twenty-five cases of brain tumor was operated nearly ten years ago and a large glioma, weighing more than 2 ounces, removed by my colleague, Dr. Porter, from the deeper portion of one hemisphere. I have heard from him within two or three years doing the work on his farm. When we consider that with certain exceptions, partly accounted for by mistaken diagnoses and partly by others in which the tumor apparently becomes stationary or even regressive for variable periods of time, practically all cases march on to a fatal termination with one of the most pitiable clinical pictures ever presented to a medical man, the importance of giving these patients the full benefit of every thing that science has to offer at the present time is obvious.

In a certain small proportion of cases the tumor is substantially latent until a late period in its course. In one of my own cases, in which the symptoms had not been sufficient to compel him to seek advice, the first indication was a convulsion. In other cases hemorrhage due to erosion of adjacent tissue or rupture of diseased blood-vessel walls may be the first indication. In others still, tumors of comparatively small size may remain latent indefinitely, the patient dying of some intercurrent disease and the tumor being found at autopsy without having been suspected. In one of my cases occurring in the practice of Dr. Cook of Bluffton, Ind., I had made a diagnosis of brain abscess and advised an operation which was declined. At autopsy we found an entirely unsuspected tumor the size of a large filbert on the base of one posterior lobe. This was in addition to the abscess which was also found in accordance with the localizing diagnosis, and would have been found and evacuated had the operation been accepted. Of course the tumor would have cut no figure in the immediate outcome of the case, but a coincident softening of a considerable part of one hemisphere from arterial disease would undoubtedly have defeated the object so far as recovery was concerned. It is only possible for a tumor to

pursue a latent course in certain so-called silent areas of the brain. It is now and then surprising, however, to what extent certain highly functional centers and parts will suffer damage by pressure or sclerosis without responding in the way of localizing symptoms. I have seen both pons and medulla, to say nothing of basal ganglia and cortex, greatly distorted from pressure without corresponding symptoms. Of course, a neoplasm must attain certain dimensions before pressure phenomena will be produced, but I am strongly inclined to think that in many of these cases in which the tumor was apparently latent it would be found not to be really so if a detailed and accurate anamnesis were always secured. It is a common experience at the close of a case of brain tumor to be able to elicit from the patient or friends some inconspicuous symptoms extending far back into the period of supposed latency.

The problems which present themselves in dealing with this class of cases may be grouped under four heads: First, is there organic brain disease? Second, what is its nature? Third, what is its exact location? Fourth, what is its treatment?

The first question as to the existence or nonexistence of organic brain disease is extremely easy in some instances and very difficult in others. Headache, vertigo and vomiting, for instance, which are common in organic brain disease are not infrequently present as a result of nutritional, toxic or vascular disturbances of the brain. The same may be said of psychical disturbances. They may be quite as severe in the one case as in the other. In fact, the initial symptoms of organic brain disease may be milder than corresponding symptoms occurring in so-called functional disorders. The persistence of symptoms of this sort not accounted for by other disturbances of health and proving intractable in their treatment should direct attention to the possibility of organic brain disease. The same thing may even be said of frequently recurring symptoms of this type because it is quite notorious that the symptoms of organic brain disease may be intermittent, especially in the early stage, owing to arrest of growth and the adjustment of intracranial relations to the new conditions. In the progress of many a case, inquiry into the conditions of the eye-grounds, reflexes, motor functions, etc., might lead to a very early diagnosis. To allow such a case to drift on indefinitely, when unmistakable and demonstrable signs of organic brain disease may exist, is a flagrant breach of professional obligation.

The second question, or the determination of its nature, becomes of the first importance. There are other organic diseases of the brain, chief among which may be mentioned, abscess, hemorrhage and even hydrocephalus, which require careful differentiation before treatment can be intelligently instituted. Hemorrhage is usually sudden in its onset, and as a general rule this circumstance alone would either definitely determine against tumor, or at least be a strong point against it. As already stated, however, hemorrhage not rarely complicates tumor and under certain conditions might occur as a very early complication of tumor before conspicuous symptoms had been produced. In two of my series of cases life was terminated by hemorrhage. In both, however, there were antecedent symptoms and the diagnosis of brain tumor had already been made.

In one of these cases (referred by Dr. Moser of Woodburn, Ind.) a tumor in the right frontal region was under my observation only a few days when a sudden hemorrhage occurred, terminating the life of the patient. At the time of the hemorrhage he had left the hospital for several days, otherwise an attempt might have been made to relieve it surgically. The other case was that of a large basal tumor occurring in the practice of Dr. W. D. Carver of Albion, Ind., in which the hemorrhage was a very late phenomenon. The coexistence of vascular disease, as shown by the history and other clinical findings, would, of course, be strong corroborative evidence in favor of hemorrhage. It must be remembered, however, on the one hand that the occurrence of hemorrhage does not exclude tumor and on the other that very slight recurring capillary hemorrhages might pretty closely simulate a progressively growing neoplasm. As a general rule, however, each recurrence of the bleeding would be ushered in by certain symptoms which even though very slight and transient in character would point to their vascular origin.

In this connection the rationale and significance of choked disk requires special consideration. The frequency of its occurrence in brain tumor is variously estimated by different observers. It is probably present in more than three-fourths of all cases of brain tumors that progress to any considerable dimensions. It seems to be somewhat more frequent in tumors occurring in the posterior fossa than in those occurring elsewhere, probably from closure of the ventricular foramina with resulting edema or even internal hydrocephalus. It occurs sufficiently often to make it by far the most important single sign of brain tumor. Considered alone, its presence does not prove brain tumor nor its absence exclude it. But taken in conjunction with other symptoms it may easily be a determining factor

in deciding the diagnosis. The mechanism of its production is a most interesting question concerning which a great diversity of opinion has existed in the past. It has been thought, for instance, that toxins produced by the neoplasm find their way by reversal of the channels of circulation through the optic nerve to the disk producing inflammation there. Many other theories have been enunciated from time to time, the review of which is unnecessary here. Suffice it to say that the theory which meets with almost universal acceptance to-day is a purely mechanical one, viz.: that it is caused by increased intracranial pressure from the increasing size of the neoplasm or occlusion of lymph channels. Whenever the intracranial pressure increases or exceeds the intra-ocular pressure it is perfectly obvious that the currents of fluids in the intravaginal spaces of the optic tract and nerve, and all circulating fluids in fact, within these structures, can no longer move freely in the normal direction from the eye to the brain. The first result of this obstruction is an edema of the retinal tissues which soon passes on to the stage of inflammation and swelling. When this stage has lasted for a variable time wasting of the nerve elements ensues and a so-called optic nerve atrophy takes place. This always occurs if the conditions last long enough and the swelling is severe enough. This theory of the production of choked disk is perhaps entirely adequate, but I am not quite able to entirely rid my own mind of a residue of the toxic theory as an auxiliary factor. But even if this is correct the mechanical conditions must precede the toxic ones, and it is possibly true that everything can be explained without invoking the toxic theory. Be this as it may, however, the importance of choked disk in the diagnosis of brain tumor is such that no case which presents symptoms suspicious of brain lesions of any sort should go without a careful ophthalmoscopic examination by a competent person.

The differentiation of tumor from abscess is not always so easy as might at first sight appear. Both may develop gradually from very slight and apparently inconsequential initial symptoms. As a rule the abscess will develop more rapidly than the tumor. However, some abscesses are very slow in their evolution, while certain tumors, especially metastatic sarcomata may develop very rapidly. The history of the case is of the utmost importance. The coexistence or preexistence of local infection, especially in the mastoid bone and accessory nasal sinuses will render abscess extremely probable. So also would the history of a definite traumatism preceding the development of the symptoms. In some cases, however, neither local infections nor traumatism can be determined. In one of my cases referred by Dr. Lasalle of Wabash, Ind., no such history could be obtained. The abscess was located and drained and the pus was found to contain the Eberth bacillus, although no definite history of typhoid fever could be obtained. Choked disk is certainly more common in tumor than in abscess, although it does occur in abscess perhaps more frequently than was formerly supposed. With the modern views of choked disk already set forth it seems that so far as is known there is nothing in the physical or chemical constitution of tumor which would make it more likely to cause choked disk than an abscess. It is simply a mechanical question. But little, if any, assistance can therefore be expected from a study of the eye-ground in the differentiation between brain tumor and brain abscess. Sometimes evidences of abscess can be obtained from the temperature curve or blood picture. If a polymorphonuclear leukocytosis should exist and especially if there is in addition a history of traumatism or an obvious source of infection the presumption in favor of abscess would be greatly strengthened.

In regard to hydrocephalus, the so-called idiopathic or congenital type need not be considered as its clinical picture is entirely distinctive. It is only the acquired varieties which could produce any confusion. These may be due either to an inflammatory process involving the ependyma or a mechanical closure of the ventricular foramina. As a matter of fact, tumor is one of the most frequent causes of this mechanical obstruction, so that if a secondary hydrocephalus could be positively recognized, it would of itself create a presumption in favor of tumor. Choked disk may be present in either condition and in the absence of definite focal symptoms of any sort a differential diagnosis might be entirely impossible.

There is a group of cases such as circumscribed meningitis due to luetic or other infection, in which severe localized or even more or less generalized pain may be the principal symptom. Some of these cases are very perplexing and time may be necessary in order to clear them up. The tuberculin and Wassermann reaction, with other means of diagnosis available in such cases, may help in solving the problem.

The third question, or that which concerns the localization of the lesion has assumed a new and pressing importance in view of the practicability of surgical intervention. The difficulties are very great and sometimes insurmountable. The rigid brain case, together with the immobility of its contents, renders a more accurate

localization necessary than is required for instance in abdominal disease where a single incision will enable a free exploration of the entire abdominal cavity.

Twenty-five cases of brain tumors have fallen under my personal observation, some of these occurring before the period of successful surgical treatment. Of these twenty-five cases, seven came to operation and in four of these, or something more than 55 per cent., the localization proved to be correct. In a fifth case the tumor would have been uncovered had not the patient's condition become so serious that the operation had to be terminated. The primary opening was within a quarter of an inch of the tumor and it was the intention to enlarge in the direction in which the tumor was actually found at the autopsy. In one case, not included in the above list, the diagnosis of tumor was made on the basis of severe localized unilateral frontal pain with marked mental disturbance and double choked disk, the swelling of the disk being 4 and 5 diopters respectively. The entire brain was sectioned at the autopsy but no sign of a gross lesion could be found. The brain was decidedly moist and the membranes clearly edematous, and the choked disk apparently must have been the result of the increase of brain volume caused thereby. In four cases not operated autopsy was made and the diagnosis verified. Only two of the seven operated cases were entirely successful, so far as a considerable prolongation of life with return to ordinary vocation was concerned. Three of the operated cases, in which the tumor was not found at the time of operation, came to autopsy and in each case tumor was found.

These cases are not particularly valuable for statistical purposes, because a considerable proportion of them go back of the period of successful surgical treatment as already stated.

The problems of localization of organic brain disease can only be discussed in a very general manner within the limits of this paper. While great advance has been made in recent years along these lines, there are still considerable areas in which gross organic disease may develop to a considerable extent, and either produce no symptoms at all or those of a confusing and even conflicting character. The motor symptoms are perhaps the most definite and reliable for localizing purposes. When definite motor disturbances occur they may with confidence be referred to a lesion of the Rolandic zone or some part of the path leading from this to the crossed pyramidal tract.

The perversion may be in the way of over stimulation manifested by muscular contraction or spasm localized or more or less general in distribution, or motor weakness or even complete paralysis. In fact the same case may present all of these phenomena in different stages. If a single group of muscles, such as a hand or a foot or even the greater part of an extremity, is involved we may confidently assume that the lesion is either cortical or immediately sub-cortical, because as the motor axons converge toward and into the internal capsules they are so close together that the involvement of a single group of fibers is difficult and unusual. Involvement of the motor paths as low down as the medulla is almost certain to be accompanied by other symptoms characteristic of bulbar disease.

The sensory manifestations of brain disease are really very broad and complex. Limiting the term to ordinary tactile sensations, its impairment or loss is characteristic of a lesion involving the cortex of the postcentral gyrus or the fibers leading down to the corona radiata and internal capsules toward the cord. These symptoms have nothing like the same diagnostic value as those of the motor zone in front of the Rolandic fissure, because of their complete subjectivity and consequent dependence on the personal equation of the individual.

Astereognosis is a complex sensory phenomenon which indicates the inability of the individual to judge of the character and identity of an object held in the hand. As a matter of fact, it depends on a great variety of impressions, among which might be mentioned those of temperature, hardness, roughness or smoothness, shape, etc. It is in fact a judgment based on these and perhaps other impressions. When well defined, however, it is an exceedingly valuable sign of organic brain disease and indicates a lesion in the anterior extremity of the superior parietal convolution.

Speech disturbances are partly sensory and partly motor. Briefly it may be stated that there are three cortical areas, lesions in which produce some type of aphasia. These are, brocas center, the angular gyrus and the mid portion of the first temporal convolution. In regard to the first area it should be said that Marie has recently attacked the prevailing view regarding the character of the symptoms resulting from lesions in this area and concludes that it is not a true aphasia, but an anarthria instead. Lesions of the middle of the first temporal convolution interfere with the sound perception of words and causes the type of aphasia known as word deafness. Those in the angular gyrus in like manner make it impossible for the brain to correctly interpret visual impressions of words and causes word blindness or alexia. In one case I made a correct localization from this symptom alone.

verified by a surgical operation. Of course, there are subcortical tracts connecting these cortical centers with each other, and with other portions of the brain, lesion of which may produce much the same symptoms as those occurring from lesions of the cortex. In general it may be said that while speech disturbances are of great value in some cases their significance and precise meaning in the individual case needs the closest scrutiny and the most careful analysis.

Visual disturbances, especially hemianopsia and dyschromatopsia, are of the greatest value in localization. They may be said to always indicate either occipital or basal disease, according as the lesion is in the cortex or immediate subadjacent tissue, or in the optic tract leading forward toward the optic chiasm. One very important modification of former views should be mentioned in this connection. It was formerly thought that contractions and inversions of the color fields indicated hysteria. It seems well established, however, that this is a frequent early symptom of brain tumor, occurring in advance of ophthalmoscopic signs.

Ataxia of cerebral origin most frequently indicates either cerebellar or quadrigeminal disease. It is easily distinguished from the ataxia of tubes by being practically uninfluenced by closing the eyes. Vertigo is frequently present, usually objective, the object moving away from the side of the lesion. A motor symptom of value is the "cerebellar fit," involving the muscles on the side of the lesion. Another indicating cerebellar disease is adiadokokinesis, or the inability to perform rapidly alternating movements. If now to cerebellar ataxia we add involvement of eye muscles and deafness on opposite side, lesions of the corpora quadrigemina may, according to Weinland, be positively diagnosticated.

While it is impossible to discuss all the phenomena of brain localization, brief reference should at least be made to a few other regions, lesions of which produce rather characteristic syndromes. Such a region is the optic thalamus, the typical symptoms being, partial hemianesthesia and analgesia, ataxia, pain with partial hemiplegia. Another is the cerebellar pontine angle. Neoplasms here frequently arise from the eighth nerve, less often from the fifth or seventh. The characteristic thing, therefore, is involvement of these nerves, or possibly in addition some of the bulbar nerves with the other indications of a tumor. Hemiplegia, either on the same side due to pressure below the decussation of the pyramids, or on opposite, appears later. Recent literature contains reports of very instructive cases of tumors in this region, which are attracting especial interest.

A striking syndrome may be produced by pontine disease. It consists of hemiplegia of opposite side with involvement on same side of the nuclei of the facial, trigeminus or other cerebral nerves, according to the part of the pons affected. Owing to its small size, both sides may be more or less symmetrically involved, thus giving rise to double paralysis of corresponding parts of the two sides.

Finally the pituitary body must be mentioned. Acromegaly is caused, not by its destruction as formerly supposed, but by its over action. Its destruction causes excessive deposit of fat and sexual infantilism. Pressure of a neoplasm on a neighboring structure may cause very definite symptoms, among which may be mentioned bitemporal hemianopsia.

Such are the more important data upon which a localizing diagnosis of brain disease must be based. The rapidity and order of development of symptoms must be studied, together with the complete clinical picture, and frequently, continued observation is necessary to reach a definite conclusion. The complex physiology of the brain, much of which is, of course, entirely obscure, presents problems for study and analysis probably not equaled in any other diagnostic field. They can, however, be solved sufficiently often to make it imperative that every case of suspected organic brain disease should have the benefit of everything that science and clinical experience has to offer. Humanity can ask no more and should be content with no less.

The treatment of brain tumor with two exceptions is always surgical. The exceptions are luetic and tubercular neoplasms. Even these exceptions probably should not be absolute; for surgical relief, as by decompression, might easily precede, or better, go hand in hand with medical treatment. While it does not necessarily follow that a brain tumor occurring in a patient that is luetic or tubercular is either the one or the other, the presumption is always in favor of such a conclusion, and energetic treatment along those lines should always be instituted. Unless the symptoms are severe or rapidly progressive surgical intervention should wait the outcome of medical treatment. Especially is this true of the suspected syphilitic. In fact syphilis is so widely distributed, often existing where least suspected by either patient or physician, that every case of suspected tumor of the brain should have the benefit of thorough antisyphilitic treatment. Where this is possible it should be carried out in a hospital under the observation of a specialist

who can watch the eye-grounds and be on the alert for the appearance or disappearance of focal signs, the recognition of which would not be within the scope of the average general practitioner.

407 West Main Street.

CANCER OF THE PROSTATE: REPORT OF TWO CASES*

JAMES Y. WELBORN, M.D.
EVANSVILLE, IND.

The report of these two cases contains nothing unusual in symptoms or treatment. It recalls the fact that cancer of the prostate is not uncommon, appearing frequently in hypertrophy of the gland. Dr. Hugh Young states that "about 20 per cent. of the obstruction of the urethra in old men is malignant." It has always been considered a serious condition and continues to fill the fatal columns rather than that of the curables.

This very condition places the subject as an important one, one for study of specialists who are now teaching us that it is possible to remove all the malignancy and produce complete recovery. It was Dr. Young's method of complete extirpation of the gland, sheath, seminal vesicles and a portion of the bladder that prompted me to operate on these two cases. In neither have I done this operation so completely as he recommends. In the first case it did not seem necessary, the malignancy had not extended to the seminal vesicles. The complete recovery, with three years passed, proves to me that the malignant tissue was all removed. This patient has perfect control of the bladder and boasts of his potency. The second case was far advanced malignancy on a simple hypertrophy, the median lobe being more like a ball on a pedicle; the adjacent tissues were infiltrated, and I am now certain that so far as a cure was concerned, it was an inoperable case. However, the removal of the gland gave the patient perfect freedom of micturition and at present, six months afterward, with return of the growth in the groin, he passes his water and has no retention.

These growths were both carcinomata, as diagnosed by Dr. H. R. Alburger, at the University of Indiana.

Dr. Young has one case in perfect health, six years after the removal by his complete operation, and several other cases of fewer years. Dr. Louis Schmidt has one at least three years cured and others of shorter duration.

Early diagnosis is necessary for cure by radical operation. I think the failure to successfully cystoscope these cases was partly due to the fact that the urethra in malignant cases is almost closed near the neck of the bladder.

Mr. D. L., aged 45, a laborer with rugged constitution, sturdy but not fleshy. At the age of 37 he began having painful and frequent micturition; some pain at all times. This continued until at the age of 42 he came under my observation, presenting the same symptoms, probably all exaggerated. The urine now was 1.020 in specific gravity and contained no abnormal constituents. Cystoscopy showed shadiness about urethral orifices with no intravesical enlargement of the prostate. The bladder held but 100 c.c. for this examination. The prostate seemed normal in size. Tuberculin test was negative. After a few months' treatment the bladder would retain 250 c.c. without discomfort. The patient now ceased to report and was not seen until his physician sent him in for prostatectomy two and one-half years later.

For six months he had suffered severe pain, urinating with great difficulty, severe pain in the glans penis at the beginning and close. The urine was normal. Prostate was enlarged about size of walnut, extremely hard and seemed irregular in contour. There was very little residual urine, drachms one to two.

The physical condition was not so good as two years ago. Failed at cystoscopy. Perineal section was made, removing the prostate and capsule. Recovery was prompt and complete (laboratory report showed carcinoma). Examination at this time shows no return; the patient appears perfectly well and has been at work constantly since a month after the operation.

Mr. H. S., aged 62, had formerly been a large, strong man, now very thin and feeble, practically bedfast for several months. For about three years suffered with frequent and painful micturition, pain over the pubis constantly, had had one attack of colic which seemed to be from left kidney. Pulse 72, temperature normal, blood-pressure 180, had lost 40 pounds in weight. Urine 1.012 specific gravity, albumin, pus, blood, bladder and prostatic epithelium, no cancer cells seen. Cystoscopy was failure due to blood and pain in the attempt. Prostate was large, irregular and *soft*. Perineal prostatectomy was done, removing the gland, leaving a part of the sheath. Recovery was prompt, in three weeks urination was normal with slight leaking in the perineum which ceased in two weeks. Within two months pain returned and a lump in the inguinal region indicated rapid growth. This patient is still living, six months after the operation.

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* Read before the Vanderburgh County Medical Society, May, 1911.

F. C. HEATH, INDIANAPOLIS

President Indiana State Medical Association, 1911

Officers of Indiana State Medical Association, 1911

THE INDIANAPOLIS SESSION

The Indiana State Medical Association will hold its annual session in Indianapolis, Thursday and Friday, September 28 and 29.

Indianapolis is to-day the largest inland city on the American continent, and one of the most important railroad centers in this country. It is the commercial, industrial, social, religious, educational, political and governmental center of Indiana, rich in natural resources and one of the most progressive states in the Union. It is more typically a capital of a state than any other city in the country, and is recognized as such in all parts of the United States. The population of Indianapolis has grown in a wonderful manner during the last twenty years. In 1870 the population was about 50,000, whereas at the present time the population is over 250,000. It is a city of homes, churches and schools. It has 175 churches, sixty-four public schools, two high schools, one academic and one manual training, and a number of institutions of higher learning, including a national trade school and technic institute, Butler College, and the Medical Department of the Indiana University.

There are many places of interest to visitors in and around Indianapolis. Fort Benjamin Harrison is located about eleven miles northeast of the city, where the Government has arranged for the care of a regiment of regulars. This post is regarded as one of the best equipped in the United States. It is reached by electric cars every hour from the center of the city.

The State House is the largest and most imposing structure in the city. It is built of limestone, the interior being finished in marble, and cost about $2,000,000. It is located in the heart of the business section, in the center of a plot of ground containing over eight acres. Here are the offices of the governor of Indiana and other state officers. It also contains the state library, state law library, state museum and offices of the various state boards.

The post-office is the only architectural representative of the Federal Government in the city. The new building has been but recently completed at a cost of nearly $2,000,000. It is of generous proportions and magnificent conception. It contains all of the offices of the Government. The Masonic Temple is one of the most beautiful structures of the kind in the country, being massive and of a monumental character. It is designed along classic lines in the Greek-Ionic style of architecture. The building was erected under the direction of the Indianapolis Masonic Temple Association in 1908. The Odd Fellows Building and grand lodge hall is one of the most notable additions to the many fine structures that have been erected in Indianapolis in recent years. Though it is only thirteen stories high it is equivalent in height to a fifteen-story building by reason of the high auditorium which occupies the

E. D. Clark, Indianapolis
Chairman Committee on Arrangements

top floor. This auditorium will seat 1,500 persons. The exterior is of limestone which is enriched by carving; the main entrance is of massive stone, and doors entirely of bronze metal. The new Murat Temple of the Shriners is one of the most unique buildings in America, and is one of the sights of Indianapolis. In it is located the Murat Theater, said to be one of the finest and most complete in the country.

In Indianapolis the center of attraction is Monument Place, formerly known as The Circle, in the center of which is the location of the great-

est monument in the world erected to commemorate the services of its citizen soldiery of the state. This is the Indiana Soldiers' and Sailors' Monument which is the city's chief adornment. It is also one of the few real works of art in this line to be found in America. It is not a plain and unsightly shaft like that on Bunker Hill or in Washington, but is a beautiful obelisk of artistic design. It was designed by Bruno Schmidt, the great German architect, and its construction was authorized by an act of the General Assembly of the state of Indiana and passed at the session of 1887. It was completed at a cost in excess of $500,000, and was dedicated with fitting ceremonies in 1902. The monument is constructed of Indiana limestone and the park in which it stands has an area of between three and four acres. The monument, including the crowning figure, is 284½ feet in height. The top of the monument is reached by an elevator and stairway from the base of the interior of the shaft. A magnificent view of the city of Indianapolis and the surrounding country is obtained from the top of the monument. There are four approaches to the monument from the surrounding street, the approaches on the north and south sides leading directly to the stairway by which the terrace surrounding the base of the pedestal shaft is reached. Four epochs in the history of Indiana are commemorated by bronze statues of representative men of the times occupying positions around the monument between the converging points of the intersecting streets. These are the period of the Revolution, represented by a statue of George Rogers Clark; the War with Mexico, by a statue of Governor Whitcomb; the War of 1812 and the battle of Tippecanoe, by the statue of William Henry Harrison; and the War for the Union by Indiana's great war governor, Oliver P. Morton.

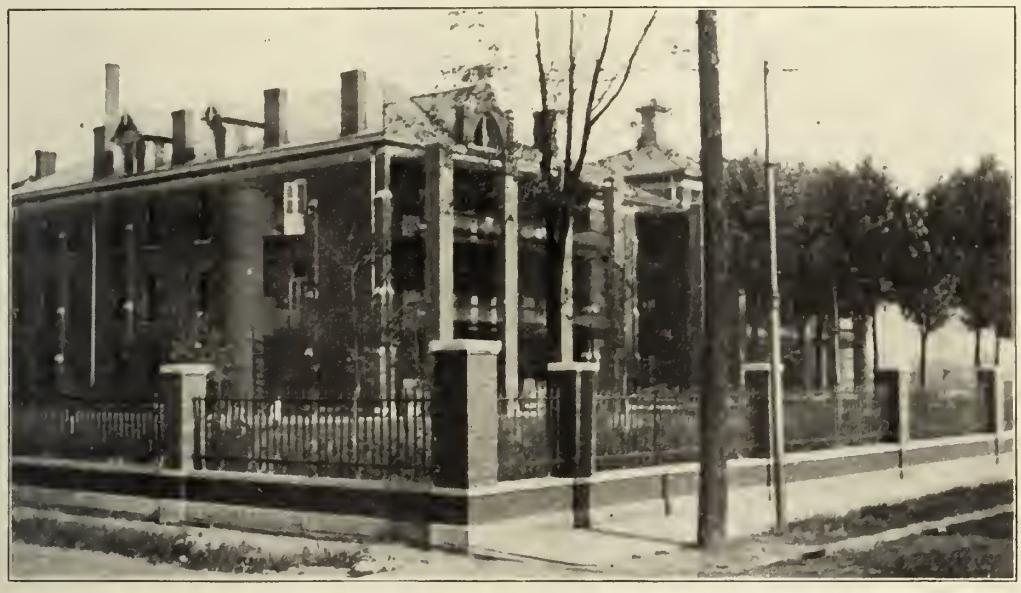
Among other statues to be found on the boulevards or in the parks are those of Schuyler Colfax, who was the first citizen of Indiana to reach the vice-presidential chair. This statue is found in University Park. Governor, senator and vice-president of the United States, Thomas A. Hendricks was one of the distinguished sons of Indiana, and to him the people of Indiana have erected a bronze statue, located on the state house grounds. Two allegorical statues representing History and Peace stand on the base of the Hendricks statue. General Henry W. Lawton, who was killed in the Philippine Islands during the Spanish-American War, is honored by a statue located on the county court house grounds. It is a tribute to his memory by the people of Indiana. Tribute to Governor Morton, the war gover-

German House, where all meetings of the Indianapolis Session will be held

nor of Indiana, is offered in the Morton statue, found at the east entrance of the state house. The Benjamin Harrison monument was erected in University Park, opposite the Federal Building, and it had its inception in the desire of friends of the late President Harrison to perpetuate the memory of his life and services in the city of his residence, among the people he loved and with whom he spent the larger part of his mature years.

Indianapolis has a large number of beautiful parks, among which may be named Riverside Park, Garfield Park, Military Park, Brookside Park and numerous other park squares. Riverside Park is the largest and most pretentious park in the city. It contains 950 acres. White River runs through the park, the water of which is utilized for boating purposes by the erection of a substantial dam which is one of the handsomest masonry structures of its kind in the country. A splendid boulevard stretches along the river bluffs within the park, golf links have been established, and the club house of the canoe club is located here. One of the most entertaining features of this park is the collection of birds and animals. Fairview Park is the most popular outing place near Indianapolis. It is the property of the street car company, located 7 miles northwest of the city, and is a beautiful expanse of about 200 acres of wooded hills and ravines overlooking White River and the Indiana Central Canal. Ample street car service is maintained regularly between the park and the city sufficient to handle the large crowds which attend it. The park is well supplied with amusement features.

Medical men are particularly interested in hospitals, and Indianapolis has its share of such institutions. There are many hospitals in Indianapolis, both public and private, including the institutions for the insane, the blind and deaf and dumb, that are supported by the state. They are all as fully equipped and as ably conducted as any in the country. The state hospital is under the control of a superintendent appointed by the department of public health and charity, assisted by interns who are graduated from the regular medical colleges and are selected by a board of examiners appointed by the board of health. The Indianapolis training school for nurses is conducted in this institution under the charge of the hospital authorities.



City Hospital

St. Vincent's Hospital was erected and is conducted under the auspices of the Catholic Church of Indianapolis. The Deaconess Hospital was erected and is conducted under the auspices of the Methodists of Indiana. The Protestant Deaconess Home and Hospital is conducted under the auspices of the German Protestant. The Eleanor Hospital belongs to and is controlled by the Flower Mission and is maintained by public subscription. It is a hospital for sick children of the poor.

The Indiana State School for the Deaf is neither a benevolent nor a charitable institution but an educational institution conducted wholly as such. The Central Indiana Hospital for the Insane is a state institution and is one of the best of its kind in the country. The grounds embrace 160 acres and present a beautiful park-like

appearance, adorned with magnificent native forest trees, shrubbery and flowers. The Indiana Institute for the Education of the Blind is a state institution and occupies one of the most beautiful residence sections in the city. The Asylum for Incurably Insane, another state institution, is thoroughly modern in every respect, having accommodations for 150 inmates.

The City Dispensary is under the control of a superintendent, who is appointed by the board of public health and charities, assisted by five interns. Here the poor may receive free services; and the dispensary maintains an ambulance service and responds to emergency calls. Bobbs' Free Dispensary is operated in connection with the Indiana University School of Medicine. There are several private hospitals or sanatoria, chief among which are Neuronhurst, or commonly known as Fletcher's Sanatorium, and "the Norways," sometimes known as Dr. Sterne's sanatorium. Neuronhurst was established many years ago by the late Dr. W. B. Fletcher, and is now efficiently conducted by his successor, Dr. Mary A. Spink. "The Norways" has been in operation for many years under the ownership and management of Dr. Albert E. Sterne.

Indianapolis is proud of her educational institutions. The Manual Training High School and the Shortridge High School are of unusual excellence. Butler College is an Indianapolis institution which has an undergraduate course that is on the par with the larger universities, and it affords unusual educational advantages to a large number of young people who would otherwise be debarred from college advantages. It has recently secured a large endowment, and the buildings of the institution already represent an investment of nearly a half million dollars. It is said to have been the first college in the world to open its doors to women on exactly equal terms with those offered to men. The policy of the college is to give a liberal education in the arts and sciences, and it has resisted the tendency toward excessive specialism.

Protestant Deaconess Hospital

To medical men the Indiana University School of Medicine is of special interest. This school represents a union of three proprietary medical schools, and it is now the only medical institution

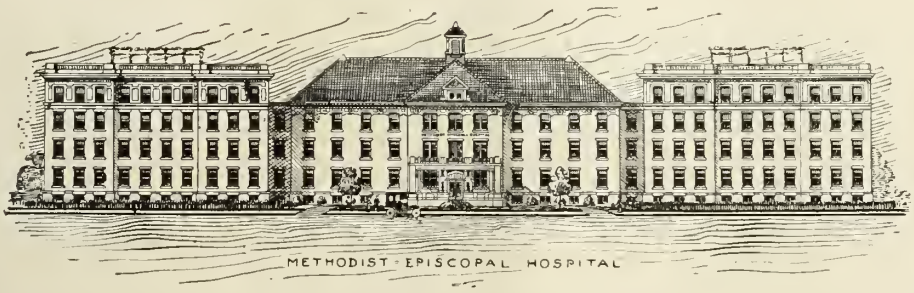
in the state. The school is controlled by the state and receives its support from the legislature. The school was established and has been conducted on the plans approved by the highest authorities in medical education. It is the aim of the trustees of the University to provide the student in medicine the best opportunities to secure the most thorough medical training. To this end the first two or purely laboratory years are given in the extensive laboratories of the University under the guidance of thoroughly trained and paid instructors, and the last two years are given in the well-equipped laboratories and lecture-rooms of the medical college at Indianapolis. The students have the advantage of clinical facilities offered by the Bobbs' Free Dispensary conducted in the college building on Senate Avenue, and have access to the various hospitals where members of the faculty engage in carrying on teaching.

Indianapolis also boasts other educational institutions such as the Indiana Dental College, the Indiana Law School, the Indianapolis College of Law, the Winona Technical Institute, the Indiana Veterinary College, and numerous business schools. The Indianapolis Public Library with its 140,000 volumes, added to the Indiana State Library of 45,000 volumes located in the State House, provide ample literature for those who are interested.

In the matter of art, Indianapolis is fortunate in having the John Herron Art Institute, which has become possible in consequence of a bequest of $250,000. The Art Association, under whom the Art Institute is managed, conducts an art school which is ranked as one of the best arts schools in the country, and is constantly growing in size and importance. The Art Institute boasts of a large collection of valuable pictures received by purchase as well as donation.

Indianapolis is well supplied with excellent hotels, restaurants and clubs. The Columbia Club, a social club with Republican leaning, is well known throughout the country, inasmuch as it has nearly 1,000 members in Indianapolis and several hundred members outside of Indianapolis, and this membership represents distinguished politicians and business men. The German House, where all the meetings of the Indiana State Medical Association are to be held, is one of the finest German club houses in the country, and was built to accommodate numerous German literary, musical and dramatic societies. The club has a series of choral and orchestral concerts during the winter, and band concerts in the garden weekly during the summer months. The Indianapolis Propylæum is a club organized for social, literary and musical gatherings. The Marion Club, a social club, is maintained for the purposes of promoting the interests of Republicanism, and has a very large and active membership which embraces some of the most highly honored and popular men in the Republican Party. The Country Club is one of the prominent social clubs of the city, and has a handsome home about four miles out, near Fairview Park.

Indianapolis boasts many large and important manufacturing concerns, but medical men are particularly interested in those which manufacture or supply the wants of physicians. One of the most interesting institutions of Indianapolis to physicians is the large plant of Eli Lilly & Company, devoted to the manufacture of prescription supplies. As this class of work is extremely technical it is necessary to maintain many laboratories for testing and research work. For a number of years the scientific department of Eli Lilly & Co. has grown so rapidly that a special building became necessary. This new research building was completed early in the summer, and is one of the finest of its kind in America, and well worth a visit. The new building was opened for the first time June 29 for the session of the American Chemical Society. Members of the Indiana State Medical Association who desire to see this department or the entire plant of Eli Lilly & Co. will be cordially welcomed. Competent guides will be available for an inspection trip at any time during business hours. Entrance to the science building is on South Alabama Street near McCarty. The labo-


METHODIST-EPISCOPAL HOSPITAL

ratory may be reached from the center of the city by taking Garfield Park car to McCarty Street.

The Pitman-Myers Company is another manufacturing house making prescription specialties which is of interest to physicians. This house makes a specialty of standardization processes, and emphasizes the importance of having drugs physiologically standardized in order to obtain the desired effect and know the quantity of a drug required in order to obtain such an effect. This firm has a plant at 111 North Capitol Avenue, and extends a cordial invitation to visitors to the coming session of the Indiana State Medical Association.

Aside from the fact that medical schools, hospitals, manufacturing houses and numerous places of interest offer attractions, the medical profession of Indianapolis is an active force in maintaining the scientific and social standing of the Indiana State Medical Association, and as host offers a cordial welcome and generous hospitality to all members. For this year's session, the Indianapolis profession has made unusually elaborate preparations for the entertainment of the visitors, and the officers have secured a program of scientific papers that promises excellence not heretofore attained.

It is therefore with a feeling of anticipation and pleasure that the members of the Association look forward to this year's session, and the attendance should be a record-breaker.

ARRANGEMENTS

The members of the state association will, I trust, find this report of the Committee on General Arrangements for the coming annual session to be held here September 28 and 29 sufficiently explicit to convey to them the impression that when the session is called to order, all details essential to its success will have been properly arranged. We have spared no endeavor to insure the success of this session and we express the hope that all members of the profession with us at that time will derive benefit and pleasure from the visit.

Fortunately all previous sessions have demonstrated that we have in the German House splendid accommodations for all of our purposes. Under one roof we will be able to hold our general meetings, our section meetings, the scientific exhibit and our commercial exhibit. In addition, most of the entertainments designed for the social pleasure of the session will be held there. The German House is located most conveniently at Michigan and New Jersey Streets.

Federal Building

at their intersection with Massachusetts Avenue, only a short walk from the prominent hotels, and almost all street car lines passing out Massachusetts Avenue lead to it.

A large assembly hall on the second floor of the German House will accommodate many hundreds, and no matter how large the attendance at the session, we can rest assured that everybody will find a comfortable chair in a well-ventilated, airy hall, whose acoustic properties are splendid. On the lower floor is a large amphitheater which will accommodate the one or the other section, and it too affords excellent speaking advantages. Between these two rooms are spacious corridors and foyers. In the latter the usual exhibit of the various instrument, pharmaceutical and book concerns will be placed, but there will be no overcrowding, and the members will find ample lounging space should they desire to relax for a while from close attention to the program. In the past, experience has shown that outside noises and talking usually interfered with the speakers and discussants, but we feel sure that no annoyance of this sort will be manifest this year.

In the rooms to the west of the long corridor will be placed the scientific exhibit, one of the most important features of our program. Anyone desiring to do so will have ample opportunity to study at his leisure the many specimens which will be placed there, and we trust that under the splendid supervision of our Professor of Pathology, Dr. Alburger, and the State Pathologist, Dr. Simons, an unusually excellent scientific exhibit will be arranged for us. Year by year this feature of our meeting has grown in importance and magnitude, and we express the hope that a considerable step in advance will be manifest in this department at our annual session.

The courtesies of the German House Club are extended to all members of the Indiana State Medical Association. An excellent noon lunch is served daily in the grill room. Anyone desiring to lunch there may do so. Refreshments of all kinds may be enjoyed at any time during the sessions.

The program committee has already arranged and partially published its schedule of papers, symposia and demonstrations, so that we need not enter at this time on its many excellent medical and surgical points of interest. It is very likely that the afternoon meeting for Thursday, September 28, will be held at the City Hospital, the two sections meeting jointly. It is to be understood, however, that this will be part of our regular program, and has nothing to do with the clinics arranged for at the City Hospital on Wednesday afternoon, September 27, and on Friday afternoon, September 29. It is desired to hold both surgical and medical clinics at the City Hospital each afternoon simultaneously, so that every member of the State Medical Association may have the opportunity of indulging his desires and assuaging his thirst for knowledge in either direction. We hope that these clinics for Wednesday and Friday afternoons will be well attended, and that the members of our profession will show by their presence their appreciation of our efforts by coming early and staying late. These clinics will in no way interfere with the regular scientific work of the Association. In fact nothing will be allowed to interfere with the regular scientific program.

We will have several distinguished guests at our session this year who will take part in the scientific meetings and attend our social affairs. Of the latter, several deserve special mention.

Laboratories of Eli Lilly & Company

On Wednesday evening, at the German House, will be given a smoker, enlivened by a dignified performance, excellent music, and we hope some creditable amateur vocal and physical entertainments by members of the profession. The Indianapolis Medical Society will tender this offer to the members of the Association. On this same Wednesday evening the ladies will be entertained elsewhere, for the German House affair is for men only, although nothing will transpire on that occasion which the ladies might not perfectly well witness. No one need fear for lack of freedom on this occasion.

On the evening of Thursday, September 28, a banquet will be held at the German House. It is the desire of the committee to make this a notable affair, especially from the viewpoint of intellectuality. We do not intend to burden anybody, or to bore anyone with long toasts on this occasion, but we think we can successfully say that the speakers at the banquet will be of a high order, men who know what they want to say and mentally capable of expressing themselves. We hope for a large attendance at this function, at which the ladies will be more than welcome. In fact we want the ladies to grace that occasion by their presence. Permit me to say at this time that under the chairmanship of Mrs. Frank B. Wynn, a variety of entertainments for the visiting ladies has been arranged, and this committee as well as the General Committee on Arrangements extend a most cordial invitation to the wives and daughters to visit Indianapolis this year. We want all of the daughters and all of the wives who can and will to attend this year's session and we can assure them that they will not only have a profitable but an enjoyable time, and return home the better for having extended their acquaintance in the medical profession.

We doctors all see too little of each other. Our annual sessions are of great value to us personally on account of the old friendships renewed and the new ones formed, so let us all get together and have a splendid time at the Indianapolis session of our Association.

Albert E. Sterne,
Vice-Chairman Committee on Arrangements.

ENTERTAINMENTS

Wednesday evening, German House, 8 p. m., general good time meeting. Smoker, refreshments and an array of entertainments. Host, Indianapolis Medical Society. Stag affair; informal.

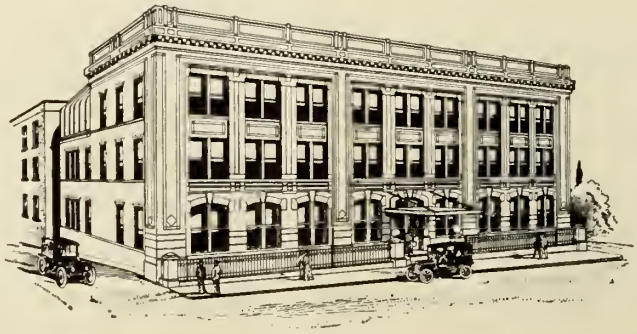
Thursday evening, 7 p. m. German House. Banquet for members and their ladies. Notable affair; everybody come.

Dr. and Mrs. Thomas C. Kennedy invite the visiting ladies to a reception at their residence, corner of Irvington Avenue and East Washington Street on Wednesday evening, September 27 (while the men are attending the meeting of the House of Delegates and "stag entertainment" given by the Indianapolis Medical Society at the German House). The Irvington cars and East Washington Street cars all pass Dr. Kennedy's residence, except those marked "Gray Street."

Thursday, 11 a. m., automobile ride for the ladies followed by luncheon at the Country Club. A very enjoyable occasion is promised, and it is hoped that all of the wives and daughters of the visiting members will attend this affair. It is intended to return to the city in ample time to permit the ladies a period of rest before the banquet of Thursday evening.

Mrs. Frank B. Wynn is chairman of committee in charge of ladies' entertainment, with Dr. Ada Schweitzer as secretary; Mrs. Louis Burckhardt, chairman of luncheon committee; Mrs. Charles E. Cottingham, chairman of reception committee, and Mrs. Harvey A. Moore, chairman of automobile committee.

In order to make ample provision for every one of the social events which have been outlined, it will of course be necessary to know about how many will be in attendance. Return postal cards



New Science Building of Eli Lilly & Company

will be sent out and it is earnestly requested by the committee that prompt replies be sent in, so that we may have some idea how many persons to provide for in the way of refreshments, automobiles, and so forth.

Albert E. Sterne,
Vice-Chairman Committee on Arrangements.

Soldiers' and Sailors' Monument

CLINICS

The clinics, which will be officially bulletined in detail at headquarters, begin in the afternoon of Wednesday, September 27, and end Saturday noon, September 30. None will be scheduled before or after the above dates, nor on Thursday, September 28, nor Friday morning, September 29, during the time which should be given exclusively to the scientific program, for the reading of papers, etc. It is further more earnestly desired and requested that no private clinics be held for the attending members of the meeting, at any time conflicting with the scientific session.

At the City Hospital on Wednesday and Friday, September 27 and 29, surgical and medical clinics will be held, in divided sections from 1:30 to 5:00 p. m., the former in the surgical amphitheatre and the latter in the laboratory building. At the dispensary there will be medical clinics on Friday, September 29 from 8:00 to 9:30 a. m. and Saturday morning, September 30 from 8:30 a. m. until noon. The following program has been adopted:

City Hospital—Wednesday, September 27
SURGICAL SECTION

1:30 p. m. Gynecological Clinic.....Dr. O. G. Pfaff
3:00 p. m. General Surgical Clinic...Dr. J. H. Oliver

MEDICAL SECTION

1:30 p. m. General Medicine.....Dr. F. B. Wynn
3:00 p. m. Dermatology.....Dr. A. W. Brayton

CITY HOSPITAL—FRIDAY, SEPTEMBER 29
SURGICAL SECTION

1:30 p. m. Genito-Urinary Clinic Dr. W. N. Wishard
3:00 p. m. General Surgery.....Dr. F. D. Clark

MEDICAL SECTION

1:30 p. m. Neurological Clinic.....Dr. A. E. Sterne
3:00 p. m. General Surgery.....Dr. E. D. Clark

CITY DISPENSARY—FRIDAY, SEPTEMBER 29

8:00 to 9:30 a. m., General Medicine.....
.....Dr. A. C. Kimberlin

SATURDAY, SEPTEMBER 30

8:30 to 12:00, General Medicine....Dr. L. Burckhardt
Demonstration of Wassermann Reaction, Administration of Salvarsan, etc.

It is requested of members of the Indianapolis Medical Society desiring to hold clinics at any institution, other than the City Hospital or Dispensary, on the days set apart for clinics as specified, that they kindly notify the chairman of the Clinical Committee, so that a proper bulletin may be posted. The committee has decided that it would be impossible to schedule more than one clinic for each clinician.

PAUL F. MARTIN,
Chairman Clinical Committee.

HOTELS

The committee on hotels for the state meeting herewith submits list of hotels with rates, and urges that the members make early reservation:

Claypool Hotel, rooms without bath, $1.50-$2 and $2.50 per day, European plan; rooms with bath $2.50-$3-$3.50 per day, European plan.

Denison Hotel, $1-$4 per day, European plan; $3-$5 per day, American plan.

Colonial Hotel, single room, $1; double room, $1.50; single room with shower bath, $1.50; double room with shower bath, $2.50, European plan.

Hotel English, European plan without bath, $1.50 per day; with bath, $2-$2.50 per day.

Grand Hotel, European plan with bath, $2-$2.50; without bath, $1-$1.50.

Hotel Edwards, European, $1-$1.50 per day without bath; $2 per day with bath.

These are the hotels which the Committee recommends.

JOHN J. KYLE,
J. H. STEWART,
J. H. EBERWEIN,
Committee.

OFFICIAL PROGRAM

Wednesday Afternoon, September 27

Meeting of Presidents and Secretaries of County Societies and Councilors of the State Association, German House, 3.30 to 5:30 p. m.

1. The Presidency and the County Societies. F. C. Heath, Indianapolis.
2. How the County Society Can Secure Its Own Club House. W. F. Carver, Albion.
3. Varying the Programs with Clinic Nights at the Hospital. G. Van Sweringen, Fort Wayne.
4. The County Society Medical Library. B. V. Caffee, Terre Haute.
5. What the Journal Means to the County Societies. Albert E. Bulson, Jr., Fort Wayne.

Wednesday Evening, September 27

Meeting of the House of Delegates in the German House, 8 to 9 p. m. Smoker in the German House, 9 to 11 p. m.

Thursday, September 28—Morning Session

General Scientific Meeting, German House Auditorium, 9:30 to 12:30.

1. President's Address. F. C. Heath, Indianapolis.
2. Symposium on Tuberculosis.
   (a) Tuberculin and Autogenous Vaccines in the Treatment of Pulmonary Tuberculosis. A Report on 454 Cases. Roswell T. Pettit, Chicago, Ill.
   (b) Tuberculin Diagnosis. Theo. Potter, Indianapolis.
   (c) Local Uses of Tuberculin in Surface Forms of Tuberculosis. T. J. Beasley, Danville.

   Discussion opened by W. T. S. Dodds, Indianapolis, and W. A. Gekler, Rockville.
3. Typhoid Fever and Its Surgical Treatment. G. G. Graessle, Seymour.

   Discussion opened by M. F. Porter, Fort Wayne, and P. F. Martin, Indianapolis.
4. Justification of Early Prostatectomy. F. H. Jett, Terre Haute.

   Discussion opened by Edwin Walker, Evansville, and B. Erdman, Indianapolis.
5. Lantern-Slide Exhibition of X-Ray Skiagrams. A. M. Cole, Indianapolis.

Afternoon Session—Medical Section, German House Auditorium, 1:30 to 4:30

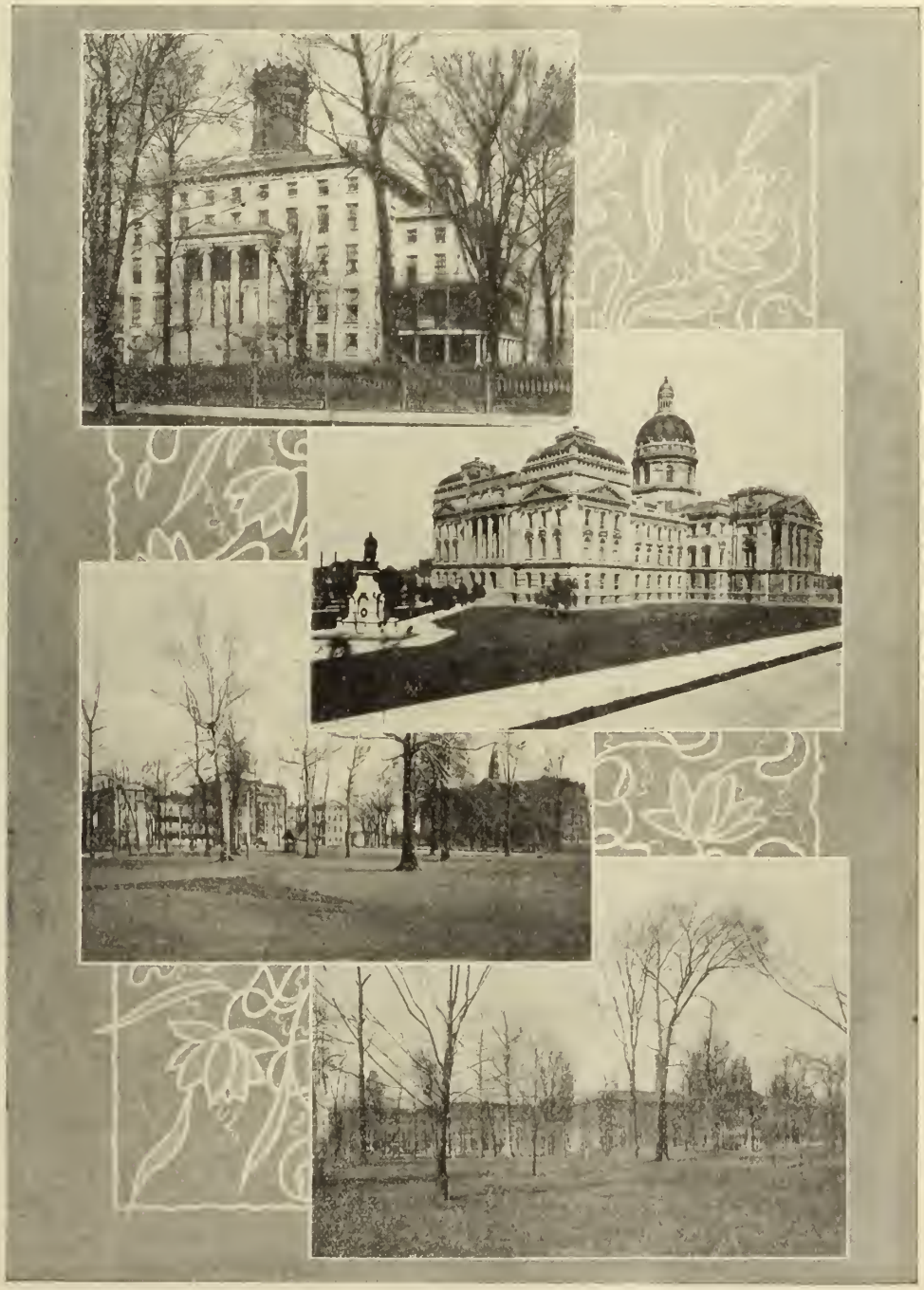
1. Symposium on Syphilis.
   (a) Sociological Aspects. C. E. Barnett, Fort Wayne.
   (b) Diagnosis. W. P. Garshwiler, Indianapolis.
   (c) Treatment (Including Salvarsan). B. W. Rhamy, Fort Wayne.

   Discussion opened by F. R. Charlton, Indianapolis; D. C. Ridenour, Peru, and A. M. Hayden, Evansville.
2. Glenard's Disease. C. R. Sowder, Indianapolis.

   Discussion opened by A. B. Graham, Indianapolis, and A. P. Buchman, Fort Wayne.
3. Nervous Crises. C. E. Cottingham, Indianapolis.

   Discussion opened by S. E. Smith, Richmond, and C. F. Neu, Indianapolis.
4. Sacro-Iliac Disease Other than Tubercular. Etta Charles, Summitville.

   Discussion opened by J. V. Reed, Indianapolis, and M. A. Boor, Terre Haute.



Blind Institute.
Deaf and Dumb Institute.

State Capitol.
Central Hospital for Insane.

Surgical Section, German House, Second Floor, 1:30 to 4:30

1. Fractures of the Humerus. H. R. Allen, Indianapolis.
Discussion opened by G. F. Holland, Bloomington, and J. A. Rawley, Brazil.
2. Injuries in and About the Ankle. E. H. Griswold, Peru.
Discussion opened by J. W. Sluss, Indianapolis, and J. R. Pearson, Bedford.
3. Toxemia of Pregnancy. G. Van Sweringen, Fort Wayne.
Discussion opened by A. Pierson, Spencer, and G. B. Jackson, Indianapolis.
4. Common Causes and Treatment of Difficult Labor. E. E. Wishard, Noblesville.
Discussion opened by C. E. Ferguson, Indianapolis, and H. A. Cowing, Muncie.
5. Diagnosis and Treatment of Empyema of Chest. Harry Elliott, Brazil.
Discussion opened by C. A. Daugherty, South Bend; J. H. Clark, Connersville, and M. R. Combs, Terre Haute.
6. Why Reoperate in Adenoid Cases? G. W. Spohn, Elkhart.
Discussion opened by L. F. Page, Indianapolis, and G. F. Keiper, Lafayette.

Thursday Evening

Banquet in the German House, 9 to 11 p. m.

Speakers: Governor Marshall; Prof. Stanley J. Coulter, of Purdue University; Harvey W. Wiley, of pure food fame; Senator John W. Kern; Dean Emerson, of the Indiana University School of Medicine; Kin Hubbard, creator of Abe Martin, and Reverend F. C. S. Wicks, of Indianapolis.

Friday, September 29—Morning Session. Meeting of the House of Delegates in the German House, 8:30 a. m.

Medical Section, German House Auditorium, 9:30 to 12:30

1. Conservation of Hearing. J. F. Barnhill, Indianapolis.
Discussion opened by D. W. Stevenson, Richmond, and L. D. Brose, Evansville.
2. Treatment of Heart Disease. W. G. Wegner, South Bend.
Discussion opened by A. C. Kimberlin, Indianapolis, and C. S. Bond, Richmond.
3. Infantile Paralysis. W. D. Hoskins, Indianapolis.
Discussion opened by F. B. Wynn and F. O. Dorsey, Indianapolis, and G. D. Balsbaugh, Huntington.
4. Diet with Special Reference to the Meat Question. C. Norman Howard, Warsaw.
Discussion opened by J. B. Berteling, South Bend; S. E. Earp, Indianapolis, and H. H. Thompson, Noblesville.
5. Reflex Neuroses. J. W. Hadley, Frankfort.
Discussion opened by J. L. Thompson, Indianapolis, and Albert E. Bulson, Jr., Fort Wayne.
6. The Effect of Non-Specific Infection on Pernicious Anemia. G. W. McCaskey, Fort Wayne.
Discussion opened by Walker Schell, Terre Haute, and Louis Burckhardt, Indianapolis.

Surgical Section, German House, Second Floor, 9:30 to 12:30

1. Exophthalmic Goiter. T. M. Jones. Anderson.
Discussion opened by J. C. Sexton, Rushville, T. C. Kennedy and A. E. Sterne, Indianapolis.
2. Uterine Fibromata. S. J. Young, Valparaiso.
Discussion opened by T. B. Noble and A. S. Jaeger, Indianapolis, and J. H. Weinstein, Terre Haute.
3. Gall-Bladder Infections and Gall-Stones. From Study of 100 Cases. M. A. Austin, Anderson.
Discussion opened by W. H. Williams, Lebanon, and E. D. Clark, Indianapolis.
4. Adhesions and Hernia. D. F. Lee, Indianapolis.
Discussion opened by J. H. Oliver, Indianapolis, and J. F. Smith, Brazil.
5. A Plea for Better Asepsis in Abdominal and Pelvic Surgery. E. B. Ruschli, Lafayette.
Discussion opened by J. R. Eastman, Indianapolis, and A. P. Roope, Columbus.
6. Pulmonary Thrombosis. B. Van Sweringen, Fort Wayne.
Discussion opened by H. A. Duemling, Fort Wayne, and T. B. Eastman, Indianapolis.

Introduction of President-Elect (in Auditorium).

Adjournment.

Friday Afternoon, September 29

Clinics at the Indianapolis hospitals from 1:30 to 5:00. Program to be announced later.

OFFICIAL CALL TO THE HOUSE OF DELEGATES

The next annual session of the Indiana State Medical Association will be held in Indianapolis, September 28 and 29, 1911. The By-Laws provide that each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each major fraction thereof, and each society shall be entitled to one delegate. According to the paid-up membership this year there are a possible one hundred and six delegates, distributed as follows: Marion County five, Allen, Vanderburgh and Vigo each two; the other eighty counties each one; the thirteen councilors and the president and secretary of the state society. The following counties only have sent in the names of their delegates:

DELEGATES TO THE INDIANAPOLIS SESSION OF THE INDIANA STATE MEDICAL ASSOCIATION

County	Name	Address
Adams	M. F. Parrish	Monroe
Allen	M. F. Porter	Fort Wayne
	Chas. R. Dancer	Fort Wayne
Bartholomew	F. E. Holder	Columbus
Benton	Clark Cook	Fowler
Blackford	G. H. Dando	Montpelier
Boone	J. R. Ball	Lebanon
Carroll	C. E. Angell	Delphi
Cass	E. D. Miller	Logansport
Clay	J. F. Smith	Brazil
Daviess	Chas. H. Yenne	Washington
Decatur	M. A. Tremain	Adams

Manual Training School

Shotridge High School

County	Name	Address
Dearborn	O. S. Jaquith	Lawrenceburg
Delaware	I. N. Trent	Muncie
Dekalb	F. M. Hines	Auburn
Elkhart	G. W. Spohn	Elkhart
Fayette	Harry M. Lamberson	Connersville
Fountain-Warren	L. A. Bolling	Kansas
Fulton	H. W. Taylor	Rochester
Grant	James A. Mattison	Marion
Greene	F. A. VanSandt	Bloomfield
Hamilton	F. A. Tucker	Noblesville
Hancock	C. K. Bruner	Greenfield
Hendricks	Thomas G. Smith	Brownsbury
Henry	H. W. Greist	New Castle
Howard	Edgar Cox	Kokomo
Huntington	Ira E. Perry	Bippus
Jackson	A. May	Crothersville
Jefferson	C. C. Copeland	North Madison
Jennings	M. F. Daubenheyer	Butlerville
Johnson	J. A. Craig	Greenwood
Knox	P. H. Caney	Vincennes
Kosciusko	G. W. Anglin	Warsaw
Lake	W. F. Howat	Hammond
LaPorte	Geo. R. Osborn	Michigan City
Lawrence	Jos. D. Heitger	Bedford
Madison	M. A. Austin	Anderson
Marshall	L. D. Eley	Plymouth
Martin	Chas. D. Stone	Shoals
Miami	P. B. Carter	Macy
Montgomery	P. J. Bareus	Crawfordsville
Noble	F. R. Clapp	Ligonier
Orange	C. W. Dowden	West Baden
Owen	Allen Pierson	Spencer
Parke	R. C. Peare	Bellmore
Pike	F. R. Rice	Petersburg
Porter	G. R. Douglas	Valparaiso
Posey	D. C. Ramsey	Mt. Vernon
Putnam	J. M. King	Greencastle
Randolph	Granville Reynard	Union City
Ripley	J. R. Pate	Milan
Rush	W. C. Smith	Rushville
Sullivan	E. M. Corbin	Sullivan
St. Joseph	W. A. Hager	South Bend
Scott	J. P. Kendall	Austin
Shelby	W. H. Walker	Angola
Tippecanoe	Wm. S. Moffitt	West Lafayette
Tipton	M. V. B. Neweomer	Tipton
Union	Garrett Pigman	Liberty
Vanderburgh	A. M. Hayden	Evansville
	H. F. Dixon	Evansville
Vigo	L. P. Luckett	Terre Haute
	J. R. Yung	Terre Haute
Wayne	Jas. E. King	Richmond
Wells	A. W. Brown	Bluffton
White	Ross M. Reagan	Monon
Whitley	F. G. Grisier	Columbia City

Counties not listed above have failed to notify the state secretary of the election of delegates.

Delegates elected for the year 1911 are expected and required to attend every meeting of the House of Delegates, namely, Wednesday, September 27, 8:00 p. m., and Friday, September 29, 8:30 a. m., and such intervening meetings as business requires. If delegates are unable to meet these requirements the alternate must be sent. The harmonious working of the Association is assured only when every county society has a vote in the deliberations of the House of Delegates. The rule will be strictly enforced that no member shall sit in the House of Delegates unless his credentials, signed by the county secretary, are sent to the secretary, or to Dr. Allen Pierson, Spencer, Chairman of the Credentials Committee, or are presented at the meeting. Since every component society has now applied for and received a charter the credentials do not need to state the charter number.

CHARLES N. COMBS, Secretary.

REPORTS OF OFFICERS AND COMMITTEES

REPORT OF SECRETARY

Mr. President and Members of the Indiana State Medical Association:

The total paid membership for 1911 to date is 2,342, the lowest recorded since 1906. This is a decrease of 204 compared to last year. The explanation is that there are at least 204 physicians in the State who need to be converted to the belief that membership in and Medical Defense by the State Association is worth while to the extent of the two dollars per year that it requires. The Counties of Newton, Pulaski and Vermillion had organizations last year, but failed to report this year. The Counties of Brown, Ohio and Starke have not reported members for the last two years, although physicians from all of these counties belong to the contignous societies. Jasper County has just been organized. While nearly every county reported fewer members than last year, notable exceptions are the counties of Dearborn, DeKalb, Lake and Whitley. The card catalog of members is kept up accurately and is used by the A. M. A. office in determining the status of Indiana physicians. To be correct to the minute it is necessary for the county secretaries to report at once all changes in the membership, such as deaths, transfers, removals, etc. Thanks are due to the individual county secretaries, as they have with very few exceptions made reports and answered letters promptly, and have labored faithfully to keep up their memberships so that the blame for the year's decrease should not rest on their shoulders. Any year in which the dues are raised is bound to be disastrous. If the dues had been $2.00 last year and increased to $3.00 the result would have been the same. Every indication points to a decided increase in the membership list for next year.

CHARLES N. COMBS, Secretary.

REPORT OF TREASURER

David W. Stevenson, Treasurer, in account with The Indiana State Medical Association.

DEBIT

To cash on hand September 15, 1910	$ 305.97
To cash from Secretary, dues collected	4,672.00
	$4,977.97

CREDIT

By cash to THE JOURNAL	$1,774.00
By cash to councilors	184.18
By cash to Miss F. E. Dillon, stenographer	75.00
By cash to Cleary & Bailey and C. J. Lose, printers	144.75
By cash to F. C. Heath, honorarium, 1910 session	318.75
By cash to Committee on Preventable Blindness	50.00
	$2,546.68
To balance on hand	2,431.29
Grand total	$4,977.97

Respectfully submitted, Sept. 1, 1911.

DAVID W. STEVENSON, Treasurer.

Administration Building, Central Insane Hospital — Medical College, Indiana University
Administration Building, Butler College
Campus and Buildings of Butler College — Technical Institute Building

REPORT OF COMMITTEE ON PATHOLOGY

Mr. President and Members of the Indiana State Medical Association:

Your committee on pathology desires to make the following report:

It has been the ideal with the Committee on Pathology to bring before the members of the Association the close relationship between pathology in its broad sense and clinical medicine and to emphasize the great importance of a thorough knowledge of the more recent advances in pathology from a practical standpoint.

With this purpose in view, at the coming session of the State Medical Association, the committee will make an effort to show by demonstration at appropriate intervals, the laboratory side of pathology, and its application and connection with the papers presented by the clinicians.

Demonstrations will be offered at the German House, where Dr. Reed will present certain phases of the laboratory methods used for the demonstration of diseases of the kidney, and Dr. Hadley of Indianapolis will demonstrate the relationship of gall-stones and pancreatitis. At the Indiana University School of Medicine Dr. Thrasher and Dr. Reed will give an exhibition of methods used in the diagnosis of syphilis, showing the main points in the Wassermann reaction, specimens of the *Trepomena pallidum* and the parasites in a moving state, as demonstrated by the dark-field illuminator.

At the City Hospital Dr. Alburger will demonstrate various laboratory methods as here practiced for aid in diagnosis and treatment, with special reference to autogenous vaccines and the microscopic diagnosis of tissues. Dr. J. P. Simond, of the Laboratory of Hygiene of the State Board of Health, will demonstrate at the German House certain recent improvements in the work of the Hygiene Laboratory and will also be glad to receive members of the Association at the state laboratory at any time during the session. Every effort will be made to make these various exhibits interesting and complete.

Yours very truly,

H. R. ALBURGER, Chairman.
J. P. SIMONDS,
ROBERT HESSLER,
W. R. DAVIDSON,
J. V. REED.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

Mr. President and Members of the Indiana State Medical Association:

Your committee on Medical Education desires to make the following report:

The past decade has witnessed extraordinary advancement in the standards of medical schools. Various factors have contributed to this progress, notable among which are the following:

(a) *Council on Medical Education of the American Medical Association.*—This very efficient standing committee of the Association, by critically investigating and reporting upon the equipment and methods of all medical colleges in the United States, has rendered an invaluable service in weeding out weak and disreputable medical schools. "Diploma Mills" found it difficult to thrive under the publicity thus given them. The first efforts of the Association were essentially iconoclastic. Practically all medical schools in the United States were in their beginnings of the proprietary type. Most of them served well their day and generation; some in an extraordinary way. But along with the good had grown up many evils—those of commission which had chiefly a commercial taint; and those of omission consisting in faulty and insufficient equipment and bad teaching. Pace had not been kept with the rapid evolution of educational methods, notably those of the laboratory. The Association's first mission was to call attention to these weaknesses of the proprietary schools. It was but natural that amongst the latter some resentment was at first aroused. In the long run, however, it was shown that the Association was not seeking the destruction of existing medical schools so much as to aid them in a natural and inevitable evolution toward higher medical standards. The outcome has been the merging of proprietary schools, frequently under the supervision of endowed or state universities.

(b) *University Control of Medical Education.*—The conspicuous place which biological study has assumed in recent years in the higher institutions of learning, has forced upon colleges and universities the necessity of at least correlating their scientific work with that in medical schools; others have sought affiliation with medical institutions; and those with ample means have entered upon the expensive undertaking of establishing and maintaining a medical department. Partly owing to this fact and partly due to the weeding out process previously described, medical teaching is rapidly passing into the hands of well endowed universities or those controlled by the state or municipality. Standards of medical teaching are being raised to a point of efficiency and thoroughness, which is taking from America the stigma of commercialism and superficiality in medical teaching. Our schools are being put upon a plane of excellence which will bear favorable comparison with those of foreign countries.

(c) *State Boards of Medical Registration and Licensure.*—Because of the representation on such boards of various types of medical sectarianism, many persons, having deeply at heart true medical progress, felt apprehension lest there be a demoralizing effect upon medical practice as well as upon medical education. Experience has proven quite the contrary. Through the influence of general educators and tactful medical men, sentiment upon boards has prevailed as a rule in favor of higher standards of medical practice as well as medical education. Fortunately thorough fundamental scientific training has been insisted upon as a basis for entrance upon the study of medicine, placing the sectarian view of practice as of secondary importance. This has given common sense ground upon which all could stand. Given a man well grounded in those elemental branches of science upon which all medical and surgical practice should rest, and there is little danger of such a person being blinded by narrow medical sectarianism. In fact the practical working of State Boards has been to diminish medical sects.

Certainly the Indiana State Board is to be commended for its consistent stand for high entrance requirements to medical schools. Indiana enjoys the distinction of being one of only a few states requiring two years of collegiate work preliminary to entrance to medical school and therefore essential to eligibility for examination by the Board after graduation in medicine.

(d) *The Association of American Medical Colleges*—This organization has emphasized the importance of collegiate training as preparatory to a medical course. It has accomplished much by raising entrance requirements and fostering sentiment in favor of salaried men, devoting all or a large part of their time to teaching. By comparing notes upon the methods of instruction and the subjects taught, a better understanding of the art and science of teaching has been developed.

With the growth of modern specialism undue time and proportion were often given to narrow branches. The Association has rendered yoeman service to the cause of medical education by coordinating the work of the different departments and giving subjects their proper balance in the college curriculum. The bearing of all the foregoing influences has been felt in Indiana. The first important result was the ultimate merging of all medical college interests under state control. The present status offers a most encouraging outlook. State control has established faith in the stability and future of the medical school. The first conspicuous evidence of confidence in the movement came as a munificent gift from Dr. and Mrs. R. W. Long for the erection of a state hospital under the supervision of the State University. The medical profession of the country is to be felicitated not only because of this splendid gift for medical education, and charity, but we may take just pride in the fact that a doctor did it.

Reciprocal to this great offering from Dr. Long came from the last General Assembly an appropriation of ground upon which to locate the hospital, and a maintenance fund for the Hospital and School of Medicine. This fund will make it possible to provide for more salaried men, including the Dean, who will devote their entire time to teaching.

The desirability of bringing the state departments of Public Health and Charities and Correction into closer relationship with the teaching work of the University.—The work of the State Board of Health and the State Board of Charities and Corrections, through the efficiency of their respective secretaries, has brought well-earned renown to the commonwealth. With the growth of cities, public health problems and the sociological phases of medical practice are pressing more and more upon the physician. Thorough practical training of students upon these subjects should enter into a medical course just as clinical instruction has done for generations past. It appears most desirable therefore, with a wealth of material at hand and trained experts available, that the University should take advantage of them as an educational asset. In the end the people would reap the great practical benefit of a trained physician in every community prepared to deal with public health and sociological questions in a practical as well as scientific way.

Let it be said in conclusion that the University is in no sense a competitor or opponent of intelligent and conscientious practitioners of medicine. On the contrary it stands ready as their helper at all times and in all things looking to true advancement of medical practice. By such action this great institution will justify its existence as a great force for the benefit of the people. For such progress both in medical education and practice the Indiana State Medical Association has always stood. As in the past so say we again, Forward!

Frank B. Wynn, Chairman.
B. D. Myers,
L. P. Drayer,
John F. Barnhill,
W. R. Moffitt.

Supplementary to the foregoing is the report of Dr. Burton D. Myers, representative of the Indiana State Medical Association at the meeting of the Council on Medical Education of the A. M. A.

REPORT OF MEETING OF THE COUNCIL ON MEDICAL EDUCATION OF THE A. M. A.

The twenty-first annual meeting of the Association of American Medical Colleges was held at Chicago, Feb. 27-28, 1911. The officers present were: President, J. A. Witherspoon, Vanderbilt Univ.; vice-presidents, H. A. Arnold, Boston, Mass.; C. R. Bardeen, Univ. of Wisconsin; secretary-treasurer, F. C. Zapffe, Univ. of Illinois.

The following interesting program was presented:

1. Call to Order.
2. Address of Welcome,
   Alex. Hugh Ferguson, President Chicago Medical Society.
3. Response,
   Egbert LeFevre, University and Bellevue Hospital Medical College
4. Roll Call.
5. Reading Minutes of Previous Meeting.
6. Report of Secretary-Treasurer.
7. Report of Judicial Council.
8. Report of Committee on Education.
9. Address of President,
   John A. Witherspoon.
10. Standards of Admission to Medical Schools,
    Geo. E. McLean, President University of Iowa.
11. Administration of Entrance Requirements,
    B. D. Harison, Secretary Michigan State Board of Registration in Medicine.
12. The Fifth Year in Medicine; A Hospital Year;
    F. F. Wesbrook, University of Minnesota.
13. The Medical Library,
    C. M. Jackson, University of Missouri.
14. Report of Committee on Medical Research.
15. Report of Committee on Equipment.
16. What the Internist Wants the Anatomist and Physiologist to Teach,
    Benson A. Cohoe, University of Pittsburgh.
17. What the Surgeon Wants the Anatomist and Physiologist to Teach.
    C. B. de Nancrede, University of Michigan.
18. Report of Committee on Pedagogics.
19. Report of Committee on State Boards.
20. Unfinished Business.
21. New Business.
    (a) Amendments.
    (b) Election of Officers.
    (c) Miscellaneous.
22. Adjournment.

This meeting was followed on March 1, 2 and 3 by the Seventh Annual Conference of the American Medical Association on Medical Education and Medical Legislation. The meeting was called by the Council on Medical Education and Council on Health and Public Instruction.

COUNCIL ON MEDICAL EDUCATION

Chairman, Arthur Dean Bevan, M.D., Professor of Surgery, Rush Medical College, 150 Michigan Blvd., Chicago.

James W. Holland, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, 10th and Walnut Sts., Philadelphia.

Victor C. Vaughan, M.D., Professor of Hygiene and Physiological Chemistry, University of Michigan, Department of Medicine and Surgery, 221 S. State St., Ann Arbor, Mich.

J. A. Witherspoon, M.D., Professor of Practice of Medicine and Clinical Medicine, Vanderbilt University Medical Department, 150 Eighth Ave., North, Nashville, Tenn.

George Dock, M.D., Dean, Washington University Medical College, St. Louis, Mo.

Secretary, N. P. Colwell, M.D., 535 Dearborn Avenue, Chicago.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Chairman, Henry B. Favill, M.D., Professor of Clinical Medicine, Rush Medical College, Chicago.

J. N. McCormack, M.D., Secretary, Kentucky State Board of Health, Bowling Green, Kentucky.

W. C. Woodward, M.D., Health Officer, District of Columbia, Washington, D. C.

H. M. Bracken, M.D., Secretary, Minnesota State Board of Health, St. Paul, Minnesota.

Walter B. Cannon, M.D., Professor of Physiology, Medical School of Harvard University, Harvard University, Cambridge, Mass.

Secretary, Frederick R. Green, M.D., 535 Dearborn Ave., Chicago.

The following program was presented:

1. Opening Remarks, by the Chairman, Dr. Dean Bevan, Chicago.
2. Report on "Recent Progress and Needs of Medical Education," by the Secretary, Dr. N. P. Colwell, Chicago.

PRELIMINARY EDUCATION

3. "Entrance Examinations," by Dr. Thomas S. Fiske, Secretary of the College Entrance Examination Board, New York City.
4. "Subjects Included in the 'Two Years of College Work' Required for Admission to Medical Colleges," by Dr. Charles R. Bardeen, Dean of the School of Medicine of the University of Wisconsin, Madison.

THE MEDICAL COURSE

5. "A Five-Year Medical Course," by Dr. J. George Adami, Professor of Pathology, McGill University, Montreal.
6. "Equipment and Instruction of the Laboratory Years," by Dr. E. P. Lyon, Dean of St. Louis University School of Medicine, St. Louis, Mo.
7. "Equipment and Instruction of the Clinical Years," by Dr. George Blumer, Dean and Professor of Medicine of Yale Medical School, New Haven.

THE HOSPITAL YEAR

8. "Educational Function of Hospitals," Dr. James B. Herrick, Professor of Medicine of Rush Medical College, Chicago.

THE STATE LICENSE

9. "Valuation of Credentials," by Dr. Frank B. Hiller, Secretary of the Missouri State Board of Health, Jefferson City.
10. "The State License Examination," by Dr. Horace G. Norton, Secretary of the New Jersey State Board of Medical Examiners, Trenton.
    (a) Primary object of the examination.
    (b) Are examinations as now conducted the best method of testing a candidate's fitness to practice medicine?
    (c) How do examinations in this country compare with those of other countries?
    (d) What practical examinations could be required without too much trouble and expense?
    (e) Best method of preventing impersonation.
11. "Interstate Reciprocity," by Dr. W. T. Gott, Secretary of the Indiana Board of Medical Registration and Examination, Indianapolis.
    (a) Does reciprocity as now administered uphold educational standards?
    (b) How can the board of one state know that examinations elsewhere are as thorough as their own?
    (c) Best method of administering reciprocity.
12. Discussion.

EVENING SESSION, DR. HENRY B. FAVILL, *Chairman*.

1. "Standards and Authority."—George Edgar Vincent, Dean of the Faculties of Arts, Literature and Science of the University of Chicago, and President-Elect of the University of Minnesota.
2. "The Responsibility of State Universities in Public Health Matters."—William L. Bryan, President of Indiana University, Bloomington.
3. "Professional Education a Duty of the State."—Edmund J. James, President University of Illinois, Urbana.

JOINT CONFERENCE ON MEDICAL PRACTICE ACTS

1. "Medical Practice Acts and the Public."—Hon. Edward J. Brundage, Corporation Counsel, City of Chicago.
2. "The Attitude of the Judiciary in the Enforcement of Medical Practice Acts."—Judge Jesse A. Baldwin, Appellate Court, Chicago.
3. "Considerations which Should Influence Appointments on State Examining Boards."—Hon. A. O. Eberhart, Governor of Minnesota.
4. "What Should be the Attitude of the State Toward the Practice of Medicine?"—Dr. M. L. Harris, Chicago.
5. Discussion.
6. "Regulation of the Practice of Medicine for the Public Good."—Chas. R. Henderson, Professor of Sociology, University of Chicago.
7. "The Administration of Medical Practice Acts."
    (a) "The Administrative Duties of the State Board of Medical Examiners."—Dr. A. B. Brown, secretary of the State Board of Medical Examiners, Louisiana.
    (b) "Medical Prosecutions and Revocation of Licenses."—A. C. Umbreit, Attorney for the Wisconsin State Board of Medical Examiners, Milwaukee.

(c) "The Defense of Medical Practice Acts in the Courts."—Jas. N. Wilkerson, Attorney for the Texas State Board of Medical Examiners, Fort Worth.

(d) "Financing of State Board Work."—Dr. Herbert Harlan, President Maryland State Board of Medical Examiners, Baltimore.

8. Discussion.

While these meetings were in session, two other very important meetings were being held, the programs of which follow.

The first was the Twenty-First Annual Convention of the National Confederation of State Medical Examining and Licensing Boards.

Invocation by the Right Reverend Charles Edward Cheney, D.D., Bishop of the Reformed Episcopal Church, Chicago, Ill.

Address of Welcome on behalf of the Illinois State Board of Health, by George W. Webster, M.D., Chicago, Ill.

Address of Welcome on behalf of the Illinois State Medical Society by A. C. Cotton, M.D., President, Chicago, Ill.

Response by William Warren Potter, M.D., Buffalo, N. Y.

I. Annual Address by the President, Medical Licensure, Joseph C. Guernsey, M.D., Philadelphia, Pa.

II. Reports:—

1. Secretary-Treasurer, George H. Matson, M.D., Columbus, O.
2. Executive Council, N. R. Coleman, M.D., Columbus, O.
3. Committee on Clinical Instruction, Henry Beates, M.D., Philadelphia, Pa.
4. Committee on Materia Medica, Murray Galt Motter, M.D., Washington, D. C.
5. Committee on Flexner Report, W. J. Means, M.D., Columbus, O.
6. Committee on Lay Publicity, Fredric Singer, M.D., Pueblo, Colo.

III. Symposium on State Control of Medical Colleges:

1. Could the State Control and Conduct Medical Colleges More Efficiently than Corporations and Private Individuals?

CHARLES WILLIAM DABNEY, PH.D., LL.D., President of the University of Cincinnati, Ohio.

2. The Duty of the State in the Control of Medical Colleges.

ABRAHAM FLEXNER, Carnegie Foundation for the Advancement of Teaching, New York City.

3. State Support and Control of Medical Education.

HON. CHARLES ALLING, JR., Chicago, Ill.

4. The Advantages to Medical Colleges of State Control—

(a) As Regards Uniformity of Requirements and Methods.

(b) As Giving Adequate Financial Support.

ARTHUR DEAN BEVAN, M.D., Chicago, Ill.

5. Teaching of Medicine:

(a) Evils Inherent Under Present System.

(b) The Spirit of Competition and Commercialism Would be Eradicated.

F. C. WAITE, A.M., PH.D., Cleveland, Ohio

6. Would It Add to the Efficiency of Medical Education to Have All Teachers Receive a Compensation Commensurate with Their Labors and Have a Larger Number Devote Their Entire Time to Teaching Than Now Obtains, and Could This Be Accomplished if Aid Were Rendered by the State?

FRANK WINDERS, M.D., Columbus, Ohio

7. Could Examining and Licensing Boards Enforce the Laws Regulating the Practice of Medicine and the Requirements of the Boards More Efficiently, if Medical Education Were Under State Control?

EDWARD CRANCH, M.D., Erie, Pa.

8. If Medical Colleges Were Under State Control, Would the State Medical Boards be Enabled to Determine More Fully Their Standing?

JAMES A. DUNCAN, M.D., Toledo, Ohio

9. If Medical Colleges Were Under State Supervision, Would the Medical Profession be More Uniformly and Efficiently Educated and Trained Than by the Present System?

ROYAL S. COPELAND, M.D., New York City

10. Since the Medical Colleges are the Source of the Medical Practitioner, on Whom Devolves the Care and the Welfare of the People, Should They be Under State Control?

HORACE G. NORTON, M.D., Trenton, N. J.

IV. Special Papers—

1. The Necessity for Establishing a Rational Curriculum for the Medical Degree.

HENRY BEATES, M.D., Philadelphia, Pa.

2. Some Thoughts on the Supervision of Medical Colleges and the Conducting of State Examinations.

JAMES A. EGAN, M.D., Springfield, Ill.

V. Meeting of the Executive Council.

This was followed by the Ninth Annual Meeting of American Confederation of Reciprocating, Examining and Licensing Medical Boards. W. A. Spurgeon, President, Muncie, Ind.

Reading of Minutes of Previous Meeting by B. D. Harrison, Secretary, Detroit, Mich.

Secretary's Annual Report.

President's Annual Address.

Report of Committee on Model Medical Bill or Uniform Medical Legislation.

Report of Committee on College Inspection and Classification.

Report of Committee on Uniformity of Examination and Reciprocity Application Forms.

Report of Committee on Amalgamation with the National Confederation.

Discussion of Methods of Examination.

Discussion of Entrance Requirements.

It will be appreciated that a report of these meetings would be very voluminous.

A reading of these programs shows that there is a large number of the ablest men in the medical profession who are giving the most serious consideration to matters of medical education.

The Committee on Medical Education of the Indiana State Medical Association for many years past have kept in touch with this great movement. The Indiana State Board of Medical Registration and Examination has likewise taken a deep interest in and made a careful study of the matters presented at these meetings. The cooperation between these bodies has made it possible for Indiana to be one of the leaders among the states in requiring two years of collegiate work for entrance on the study of medicine. The hearty support of the medical profession of the state has also

made possible the development of medical education in Indiana in a way which has received universal commendation.

The generous gift of Dr. and Mrs. Long will unquestionably inspire others to make gifts for the advancement of medical teaching. Already several proposals have been received for the later addition of special wards to this hospital.

The character of instruction in the school of medicine has been excellent. New methods of instruction, however, have made medical teaching very time-consuming, and a heavy tax on busy practitioners, so that the need of a few salaried men who would give their time to the coordination of the work of departments has been very keenly felt. The appropriation by the last legislature for the hospital and school of medicine makes this further, very necessary development, possible. A dean and head of the department of internal medicine has already been appointed, and a head of the department of pharmacology, materia medica and therapeutics is being sought and will probably be announced in the next issue of THE JOURNAL.

B. D. MYERS,

Representative of the Indiana State Medical Association at the Meeting of the Council on Education of the A. M. A.

REPORT OF COMMITTEE ON MEDICAL DEFENSE

Mr. President and Members of the Indiana State Medical Association:

Your Committee on Medical Defense, after investigating the practice of other state medical associations governing the defense of members in suits for alleged malpractice, begs to offer the following as embodying their recommendations for a plan to be adopted by this Association:

1. That 75 cents of the annual dues of each member shall be set aside as a special fund for Medical Defense, as provided by a resolution already passed at our last session.

2. That whenever such fund shall exceed the sum of $6,000, the surplus over and above this amount may be used for such other purposes as the House of Delegates may direct.

3. That the administration of Medical Defense of this Association shall be intrusted to a permanent committee of three members to be elected by the House of Delegates; those first chosen to be elected for terms of one, two and three years, respectively, and thereafter one member to be elected at each annual session to serve for three years.

4. That this committee shall have full authority governing all matters pertaining to the Medical Defense features of this Association; with power to employ counsel, summon and employ expert witnesses and incur such other expenses as in the judgment of the committee may be necessary in the defense of members against whom suits may be brought; provided, always, that the total expenditure in any single suit shall not exceed 25 per cent. of the fund available at the time suit is incurred.

5. That the chairman of the Committee on Medical Defense shall be custodian of the defense fund and shall give bond in the sum of $3,000.

6. That the Medical Defense Committee shall make an annual report to the House of Delegates of the cases in which it has been of service to members, and furnish an account of money received and expended, such report to be published in THE JOURNAL of the Indiana State Medical Association at the time and in the manner that reports of other committees of the Association are published.

7. That the liability of this Association shall include only the expenses necessary for the legal defense of its members and not damages awarded.

8. That the Association shall not undertake the defense of a member in a suit that may be brought to secure indemnity for services rendered prior to Jan. 1, 1912, nor in any case in which the member, who applies for medical defense by the Association, has failed to pay his annual dues for 1912 prior to the rendering of services which are the basis of the suit; and that Medical Defense by the Association shall not be available to those who are delinquent or to those who have not paid the annual dues of the Association prior to the rendering of services for which indemnity is asked (dues are payable on January 1 and become delinquent on February 1 of each year).

9. That a member desiring to avail himself of the services of the Committee on Medical Defense in connection with litigation brought or threatened must first submit to a local committee of his county medical society—to be composed of the president, secretary and one other member in good standing, who may be nominated by the defendant—a full statement of the question at issue, including the diagnosis and treatment of the case and the names of physicians, nurses and other persons having knowledge of the same, who may be summoned as witnesses.

10. That the committee of the county medical society shall, after an investigation of all the circumstances and facts, transmit its report, with recommendations, to the Committee on Medical Defense of this Association.

11. That accompanying such report from the county society, if favoring medical defense by the Association, there must also be furnished the written authority of the defendant granting to the Medical Defense Committee of this Association full power to act in his behalf, and an agreement that his case shall not be compromised or settled without the consent of a majority of the Committee on Medical Defense.

12. That in the event that the county committee shall fail to recommend the case as one worthy of the recognition of this Association, a direct appeal may be made to the Committee on Medical Defense of this Association, whose decision shall be final.

13. That suits brought against the estate of a deceased member shall be defended as if that member were alive; provided, that such member was in good standing in the Association at the time of his death and that the services for which indemnity is asked were rendered while the deceased was a member in good standing.

14. That each member of the Committee on Medical Defense of this Association shall be entitled to an honorarium of $10 per diem, with traveling expenses, if required to go out of town in the investigation of any case or in attendance at court, and that these same fees shall be allowed to expert witnesses under similar circumstances.

15. That the Committee on Medical Defense shall have power to adopt such other rules, not to conflict with the foregoing, as in their judgment may seem necessary.

16. That Medical Defense shall be a feature of this Association for the year 1912, after the adoption of these resolutions, which shall hereafter be embodied as part of the By-Laws.

Respectfully submitted.

(Signed) George D. Kahlo, Chairman.
Albert E. Sterne.
A. C. Kimberlin.

COMMITTEE ON PREVENTION OF VENEREAL DISEASES

Mr. President and Members of the Indiana State Medical Association:

Your Committee on Prevention of Venereal Diseases, wishes to submit the following as its report, with a few suggestions which seem to us as worthy of consideration by the members of this Society.

We believe that it is necessary for the public to understand more fully the symptoms, dangers and the means of prevention of venereal diseases.

To this end a campaign of education is demanded in order to arouse the public interest. How this campaign in general is to be conducted can be touched upon but lightly in this report; but as physicians we can accomplish a great deal.

We regard all laws bearing on this subject as practically useless until the people understand the necessity for them, and the people are willing and demand their enforcement.

We are sure that when the public come to know that 90 per cent. of the men 21 years of age have been infected with a venereal disease, and that these diseases are preventable, we will have sufficient backing of public opinion to make what few laws as are necessary effective.

We believe that the law regarding the marriage of infected individuals, while an excellent law theoretically, is practically a dead letter and only increases the number of perjuries, because people are ignorant of the dangers of these diseases.

Much has been done in the year just past and previous years in arousing public interest. Dr. C. S. Woods, Dr. J. N. Hurty, Dr. A. S. Jaeger of this Committee, and others have given their time in delivering lectures over the State; they report that those who attend, and the attendance has been large, are beginning to manifest a desire to know more about a subject which so vitally concerns all and of which they are so ignorant.

But it would take quite a large corps of lecturers, constantly in the field, years to sufficiently educate the citizens and future citizens of Indiana.

How can the physician assist in reducing the percentage of venereal diseases?

He should make, or have made, a microscopical examination of every urethral discharge (a constant uretheal discharge is not normal in any individual) which comes under his care, and thus would be enabled to make an accurate diagnosis.

If gonoccoci are present, the patient should be made to understand that he is directly or indirectly a menace to the community, so long as he harbors gonococci:

That he can be cured of gonorrhea.

That he is not cured when discharge stops.

That he should be treated until it is accurately determined that he is absolutely free from gonococci.

That gonorrhea is a more serious disease than syphilis.

That one may be a hot bed of gonococci, without suffering any inconvenience himself, meanwhile infecting many others.

We know that a dark-field illumination or stain should be made of every suspicious genital sore, at the earliest possible moment, and the patient should be taught that if that sore is a chancre he may infect his whole family, and that syphilis is much more easily cured than gonorrhea, and that he can be rendered non-infective (and possibly cured) in from twenty-four hours to two weeks, in the *primary stage*, with one dose of salvarsan; that he will not be cured with *one* injection of salvarsan in the *secondary stage*.

That he can be cured and stay cured and the physician can prove it.

That 30 per cent. calomel ointment will prevent syphilis.

That soap and water will prevent chancroids and frequently syphilis.

That the medical examination of prostitutes is a farce as now conducted, and gives him no assurance that he will not contract any venereal disease.

That sexual intercourse is not necessary to one's health—and even if it were necessary, the remorse of illicit intercourse is far more harmful than any imaginary benefit.

We believe that if the thousands of physicians of Indiana should wake up and do their sworn duty, we could lessen the prevalence of venereal diseases fully 50 per cent. in the next five years, by controlling the now infected individuals, by early diagnosis, and by prophylaxis.

Dr. C. S. Woods, Secretary of the Indianapolis Board of Health, has devised a card for the purpose of obtaining statistics of venereal diseases in this city.

It asks—Name of disease.

First, second or third attack, acute, sub-acute or chronic. Occupation and age.

The name of the physician and the patient are not asked for and are not given.

In a year we hope to have some reliable statistics of the prevalence of these diseases in Indianapolis.

In regard to lay education, there are many things which, given wide publicity, would all help to lessen the frequency of venereal infection.

The trend of the times is high living and extravagance. Is it strange then, that the young girl, full of the exuberance of youth, working for practically starvation wages, expecting the pleasures of life just as much as does her more fortunate sister and not being able to gratify her desires for pleasant things, naturally falls an easy victim to the wiles of the seducer?

So it is that in the last few years, it has been gradually brought home to us that the automobile (so-called joy-riding) by gratifying the whims of girls for a good time which under ordinary circumstances would have remained ungratified, has been quite an important factor in the seduction of many young women and naturally thereby causing a greater dissemination of the venereal diseases. As is well known, the moving picture shows have had a contaminating influence upon the morals of young people of the adolescent age; both by the character of the amorous and vulgar pictures shown and by the conditions in which such establishments are maintained, all tending to the stimulation of the sexual passions in the ignorant young.

It might also be mentioned among other things, that modern styles in ladies' dress, the display in show windows and pictorial advertising in newspapers and magazines of females' lingerie, all has a tendency to fire into activity the smouldering spark of sexual appetite in the youth, eventually leading him to illicit cohabitation and naturally, sooner or later, to the contraction of one or more of the venereal diseases.

Your Committee in presenting this report, most earnestly wishes to impress upon you its belief, that it is our duty as physicians, and citizens, to do our utmost to counteract the baneful results of venereal diseases.

At the present time it is senseless to talk about the eradication of prostitution and its allied diseases: but what we can do is to prevent the innocent from suffering alike with the guilty. This we can do as physicians by learning how to cure these diseases thoroughly and scientifically, by teaching the victims the dangers of contamination, and by using every means within our power to prevent the uncured victims from marrying innocent women.

Respectfully submitted,
W. P. GARSHWILER, Indianapolis.
A. S. JAEGER, Indianapolis,
J. H. WEINSTEIN, Terre Haute,
F. M. HAYDEN, Evansville,
C. E. BARNETT, Ft. Wayne.

REPORT OF COMMITTEE ON NECROLOGY

Mr. President and Members of the Indiana State Medical Association:

Sixty of the physicians of Indiana have died since the meeting of the Association at Fort Wayne in September, 1910. A majority of these had reached middle life or even an advanced age. Two of the number met accidental violent deaths. Short obituary notices of each deceased physician have been recorded in the official JOURNAL. It has been claimed during the past year that "There are no longer adequate obituaries; the Society evidently has no time to stop and gather up its dead." This is not the fault of the Committee on Necrology nor of the JOURNAL, but is owing to the failure of the different societies to send in obituary notices of their deceased members.

The names of three deceased physicians may very properly be mentioned individually, although two of them are not included in the sixty mentioned nor were they residents of the state at the time of their death.

Dr. Patrick H. Jameson, who was present at the State Medical Convention held at Indianapolis in June, 1849, was next to the last member of that immortal band to pass away. He had been active in medical circles for a great many years, and died at his home in Indianapolis last October at the advanced age of eighty-six years.

Dr. Wilson Lockhart, formerly of Danville, and president of the State Medical Society at the session of 1865, died at his new home in Seattle, Wash., in December, 1910.

Dr. William W. Mayo, father of the Mayo brothers and who formerly practiced at Lafayette, died at his home in Rochester, Minn., March 6, 1911. He had reached the advanced age of ninety-two years.

The chairman takes this opportunity to urge upon secretaries of county societies to furnish proper obituary notices of all deceased members.

Respectfully submitted,
G. W. H. KEMPER, M.D., Chairman.

REPORT OF COMMITTEE ON PREVENTABLE BLINDNESS

Mr. President and Members of the Indiana State Medical Association:

Your Committee on Preventable Blindness begs leave to submit the following report of its doings, recommendations and expenditures:

THE WORK ACCOMPLISHED

After its appointment at the last session of this Association your committee resolved to seek the passage of a bill, through the Assembly of 1911, looking to the prevention of blindness due to ophthalmia neonatorum. To that end cooperation was solicited and secured from the Indiana Institute of Homeopathy, the Indiana Eclectic Medical Association, and the State Physio-Medical Association. In other words the entire organized medical profession of the State joined in the effort to secure the passage of such a bill and its enactment into a law. Each society was represented as follows:

Indiana State Medical Association:
Dr. F. C. Heath, ex-officio, Indianapolis.
Dr. G. F. Keiper, Chairman, LaFayette.
Dr. A. E. Bulson, Jr., Ft. Wayne.
Dr. J. N. Hurty, Indianapolis.
Dr. Thomas Eastman, Indianapolis.
Prof. Severance Burrage, LaFayette.

Indiana Institute of Homeopathy:
Dr. John Taylor, Chairman, Crawfordsville.
Dr. F. C. Stewart, Indianapolis.
Dr. C. B. Kern, LaFayette.
Dr. Sollis Runnells, Indianapolis.
Dr. C. B. Harpole, Evansville.
Dr. G. O. Erni, New Albany.
Dr. C. B. McCullough, Indianapolis.
Dr. W. B. Stewart, Indianapolis.

Indiana Eclectic Medical Association:
Dr. M. S. Canfield, Chairman, Frankfort.
Dr. G. C. Winter, Indianapolis.
Dr. J. D. McCann, Monticello.
Dr. O. B. Nesbitt, Valparaiso.
Dr. M. F. Baldwin, Marion.

State Physio-Medical Society:
Dr. E. G. Anthony, Chairman, Indianapolis.
Dr. L. A. Duthie, Indianapolis.
Dr. A. R. Harold, Indianapolis.
Dr. W. D. Woodard, Indianapolis.
Dr. L. Stafford, Indianapolis.

Each member of the several committees was supplied with literature relating to ophthalmia neonatorum and its prevention. For this purpose we used the literature published by the Committee on the Prevention of Blindness of the New York Association for the Blind, Miss Carolyn C. Van Blarcom, secretary; The Massachusetts Commission for the Blind, Miss Lucy Wright, general secretary, and the Ohio Commission for the Blind, Mr. Edward Van Cleve, President. This valuable literature was supplied us simply on the payment of the postage bill incurred in mailing it to the different members.

We desire therefore to return our thanks to these very kind friends of our cause. This same literature we afterward used in an effort to develop public sentiment in our favor in different parts of the state. Neither were the members of the Assembly forgotten with this literature and other matter especially prepared for them.

On December 9 a call was sent to each of the committeemen to meet December 15 at the office of the Secretary of the State Board of Health for organization and consultation. On the latter day a large majority of the members were present at Dr. Hurty's office. The chairman of your committee was selected to preside. Each committee appointed its own secretary, Professor Severance Burrage acting for our own committee. From each committee was appointed one member to act with the others as a steering committee to pilot any measure that might be formulated through the forthcoming legislature.

After a considerable discussion of a most friendly nature it was resolved to seek the enactment of a law that would prevent blindness due to ophthalmia neonatorum.

A committee was appointed to draft such a bill, for introduction into the forthcoming Assembly. The committee was composed of Drs. J. N. Taylor, M. S. Canfield, E. G. Anthony and your chairman.

This matter was thoroughly canvassed and at the opening of the General Assembly, the Honorable J. D. Foor, M.D., Representative from Vigo County, introduced our bill as follows:

An Act entitled an act to prevent blindness caused by the preventable disease known as ophthalmia neonatorum.

Preamble

Whereas, About thirty percentum of all blindness is caused by the preventable disease known as ophthalmia neonatorum: and

Whereas, This disease may always be prevented, and almost always cured in its incipiency, and its existence is generally due to ignorant or careless management; therefore,

Ophthalmia Neonatorum-Birth Return

Section 1.—*Be it enacted by the general assembly of the State of Indiana,* That whenever a child is born, the physician, midwife or any other person who is present and engaged as professional attendant, shall report said birth on a blank supplied by the state board of health to the health officer having jurisdiction, within thirty-six hours after such birth occurs. Said birth certificate in addition to other data ordered by the state board of health shall have upon it this question: Were precautions taken against ophthalmia neonatorum? And it shall be a violation of this act for any physician or midwife in professional attendance at a birth to fail to report same as herein commanded or to omit answering the said question: Were precautions taken against ophthalmia neonatorum? All bills or charges for professional services rendered at a birth shall be unlawful if report is not made as herein commanded.

Physicians and Midwives—Examination of Eyes

Sec. 2.—It shall be the duty of all physicians or midwives in professional attendance upon a birth to always carefully examine the eyes of the infant, and if there is the least reason for suspecting infection of one or both eyes then said physician or midwife in professional attendance shall apply such prophylactic treatment as may be recognized as efficient in medical science.

Parents or Attendant—Report

Sec. 3—Should one or both eyes of an infant become inflamed, swollen or reddened, or show any unnatural discharge or secretion at any time within two weeks after its birth, and no legally qualified physician is in attendance upon the infant at that time, it shall be the duty of its parents, or in their absence, whoever is caring for said infant to report the fact in writing within six hours after discovery, to the health officer having jurisdiction: *Provided,* Said report to said health officer need not be made from recognized hospitals.

Health Officer—Duty

Sec. 4.—Upon receipt of a report as set forth in Section 3 of this act, health officers shall direct the parents or whoever has charge of such infant suffering from such inflammation, swelling or unnatural secretion or discharge of the eyes, to immediately place it in charge of a legally qualified physician or in charge of the city or township physician if unable to pay for medical service.

Penalty

Sec. 5.—Any violation of the provisions of this act shall be punished by a fine of not less than ten dollars nor more than fifty dollars.

Repeal

Sec. 6.—All parts of laws in conflict with this act are repealed.

The bill passed the House with but three votes against it. It passed the Senate unanimously. Governor Marshall promptly affixed his signature in approval. And thus we have secured a law, which has been pronounced by Dr. Park Lewis, Chairman of the Committee on the Conservation of Vision of the American Medical Association, as the best law of its kind in our fair land.

During the session of the general assembly the large exhibit of the Committee on the Prevention of Blindness of the New York State Association for the Blind, was placed in a prominent place in the State House. It proved most valuable, instructive and helped much to secure the result attained.

So much for the work accomplished. The law is on our statute books to be observed by the medical profession that put it there: To be observed by all others concerned.

What of the Future?

The work begun by the committee should be continued and the scope of its work enlarged. But the name of the committee should be changed from its present title, "Committee on Preventable Blindness" to "Committee on the Conservation of Vision," thus aligning the State Medical Association with the large work attempted by the American Medical Association and the American Association for the Conservation of Vision. While ophthalmia neonatorum is responsible for at least one-fourth of all blindness, there are other causes which are responsible for over another fourth. Of the 100,000 blind persons in this country, over one-half are needlessly blind.

The new committee on the Conservation of Vision should be constituted to work along the lines suggested by both these associations as follows:

(1) Diseases and defects of the eyes.
(2) Education as to the hygiene of the eyes in schools.
(3) Hygiene of the eyes in factories, stores and offices.
(4) Gather statistics and information as to the above.
(5) Secure proper legislation.
(6) Conduct a department of publicity and educate the public through the press of the state.

The American Medical Association has endorsed the work of the American Association for the Conservation of Vision, whose activities are to be directed along the following lines:

(1) To collecting and coordinating existing information on the various matters pertaining to the conservation of vision.

(2) A careful and impartial investigation of matters upon which present knowledge is either incomplete or inconclusive.

(3) To standardizing methods and practices as fast as definite knowledge can be obtained.

(4) To carrying on a general campaign of education in regard to the proper care and use of the eyes.

(5) To securing legislation tending to prevent wilful or ignorant practices which result in injury to or destruction of vision.

This Association invites all to join its ranks for the accomplishment of the above purposes. We would recommend that the Indiana State Medical Association subscribe to the Charter Membership initiation fee which is five dollars, with annual dues thereafter of one dollar and thus secure for the committee the literature that will be published by that Association, besides putting this State Association in active cooperation with its work.

EXPENDITURES

For the work of your committee fifty dollars were appropriated. Of that sum $49.30 were expended leaving a balance of seventy cents. The items of the expense will be found in the day book in the box of correspondence which will accompany this report to the meeting of the Indiana State Medical Association.

Respectfully submitted,

GEORGE F. KEIPER, Chairman.
ALBERT E. BULSON, JR.,
JOHN N. HURTY,
THOMAS B. EASTMAN,
SEVERANCE BURRAGE.

REPORT OF COMMITTEE ON TUBERCULOSIS

Mr. President and Members of the Indiana State Medical Association:

We, the undersigned Committee on Tuberculosis beg leave to submit the following report as we view the situation on tuberculosis in Indiana.

For the first six months of this year there were 1,854 deaths from pulmonary tuberculosis in our state; there seems to be no very appreciable diminution in the number of deaths or cases reported. We would urge the profession to be more diligent in their efforts to find and report the incipient case, before death, rather than wait for the death certificate to locate these cases. They are wanted and needed for record only, not treatment.

The many agents active in the campaign against pulmonary tuberculosis may be mentioned, and the many Red Cross Relief Stations organized in various cities of the state are doing excellent work and getting good results. We as an organized body should give support and encouragement to this phase of the work as it embodies the great virtue, charity.

Our State Institution at Rockville is open and ready for the care of the indigent tuberculous patient to the extent of 100 beds. We believe this institution, like all other new institutions of its kind, has thus far been handicapped by their unpreparedness for the reception of so great a number of patients, as have been received.

So much delay was encountered in the opening of this institution, there being such great need for its services by the State's indigents. We feel it our imperative duty to call the attention of the organized medical profession to the fact that this State Institution is primarily for the indigent incipient case, and it should be our pleasure as well as our duty to see that we exhaust the supply of indigents in our respective counties as prorated to us before we attempt to send any that may pay for their care.

We have private institutions in our state that are and have been doing excellent scientific work in the treatment of pulmonary tuberculosis, and whose work has been recognized as of the best, by the various private and public institutions of the country.

We believe that the medical profession, as an organization, should see to it that the field of the State Institution, whose primary object is to care for the indigent case, should not enter the field of pay cases until the vast number of indigents of Indiana shall have been exhausted.

We point with pride to the increased interest and effort on the part of the profession in its efforts to scientifically study this disease, the manifest interest on the part of the various component societies of this Society, show the intense interest being taken by the individual physician to lend his aid in the fight against the Great White Plague.

We point with pride to the educational work being done by the State Board of Health, and ask the cooperation of this society with the State Board of Health and State Board of Education, to bring about the medical inspection of our school children, the preservation of whose health is the hope of our great State.

We will urge the organization of Anti-Tuberculosis Societies in every county of our State, not for treatment of such cases but for spreading the gospel of prevention, and to aid in securing timely and proper treatment of the same.

F. A. TUCKER,
THEODORE POTTER,
C. R. SOUDER,
GEORGE T. MCCOY,
THOS. J. BEASLEY.

REPORT OF COMMITTEE ON INEBRIETY

Mr. President and Members of the Indiana State Medical Association:

Our report this year will bear chiefly on the reports of inebriate asylums in the states of our Union, with a brief reference to similar institutions in other countries.

We have state inebriate asylums in Massachusetts, Iowa and Minnesota, and the states of New York and Pennsylvania have taken the necessary legislative steps to establish inebriate asylums.

The Foxboro Home for Inebriates in Massachusetts is to be enlarged and the location changed to a farm of 500 acres. Several industries are to be concentrated and put into active operation and a selected class of inmates are to be received and graded according to their capacity. This promises a greater advance in the practical work, than any other institution in the country.

The New York State Inebriate Asylum planned as a farm colony in the neighborhood of New York has been ordered by the legislature. A board of managers has been appointed and plans have been made.

Bills for the erection of inebriate asylums have been introduced into many of the legislatures, but all have been held up and postponed for various reasons, principally the quacks and allied interests who denounce it as extravagance and folly.

The Pennsylvania Inebriate Asylum has a large sum of money appropriated and a board of appointed officers but is waiting.

Inebriate Hospitals

The Dominion of Canada has for years projected and put into operation an experimental station for the outdoor care of inebriates. Men recognize the need of such an institution but in many instances seem not to know how to commence.

In England twenty-six hospitals operated under the auspices of the government, receiving committed cases, are doing good work. As most of their inmates are aged incurables, the results are not promising. The Inspector of Inebriate Asylums, Dr. Branthwaite, is urging that the incurables be put by themselves on large farms, and that the present institutions be used for recent cases. He reports the most promising results from the early treatment of drink and drug takers.

In France and on the continent over thirty institutions of all sorts and kinds, with every variety of treatment, seem to be very successful. There are no specifics in use over there or concealed remedies. Many of the places are faith cures. Others are work cures. Some use hydrotherapy exclusively. Others use electricity and various other measures, openly and without secrecy. They all claim good results.

In this country the slow disappearance of the various quack measures is followed by the reappearance of a three-day cure which makes *promises* of most extraordinary results.

The number of private institutions in this country are all prosperous and are settling down to a full realization of the magnitude of the work and its tremendous possibilities.

The Washingtonian Home at Boston receives the largest number of patients of any hospital in the country, and reports most gratifying results, even with short time patients.

Dr. Crothers' institution, The Walnut Lodge Hospital of Hartford, Conn., the oldest private institution in America, is accumulating an increasing number of facts, showing the need and positive relief from scientific means and measures and the tremendous possibilities, unrealized at present, in the prevention and cure of spirit and drug takers.

Literature

The literature during the past year has grown immensely, along scientific lines. The medical profession are realizing that the inebriate is sick and can be cured, benefited and in some instances the causes can be prevented. Sir Victor Horseley's book on "Alcohol and the Human Body" has been a revelation to the profession, and has served as a great starting point for further investigations.

Its sale is increasing rapidly in this country. Dr. Geo. B. Cutten's book on "The Psychology of Inebriety" has taken up many practical sides of the subject, which appeal to everyone interested.

Dr. Crother's book on "A Clinical Treatise on Inebriety," has summarized the whole subject in a way that is very helpful to students who would like to become acquainted with the facts.

Members of the medical profession who desire to know the effects of alcohol and other narcotics on the vital organs of the human system both in health and disease, and methods of treating pathological conditions resulting therefrom, will be greatly pleased and profited by reading the *Journal of Inebriety*, edited by Dr. T. D. Crothers, Secretary of the American Medical Temperance Association, which is published at Hartford, Conn.

A large number of pamphlets have been issued during the year, showing the wide reaching, degenerative effects of alcohol in almost every disease and the discussions which have followed have shown a decided change in public sentiment.

The inebriate must be recognized as diseased and requiring help, and farm colonies and measures for treatment and cure devised along rational lines and carried out on a broad scientific plan.

The advances this year show clearly that this is the objective point to which there is a steady approach, and the time is not far distant when every state and many cities will provide homes for the special care of these sorely afflicted citizens.

Respectfully submitted,

H. J. Hall, M.D.,
J. A. Ball, M.D.
Members of Committee.

REPORT OF COMMITTEE ON STATE MEDICINE

Mr. President and Members of the Indiana State Medical Association:

We, the members of your Committee on State Medicine desire to present the following report covering preventive medicine in Indiana during the year.

Typhoid Fever

During the year 1910 there were reported in the state 3,056 cases of typhoid fever, with 934 deaths. A disease of such severity should be investigated most thoroughly, and every means should be used to prevent its spread if possible. It is well for the state to use every scientific measure to protect the public against this disease. Our people should be educated in the prophylaxis of typhoid. The child in the school, the teacher, and the general public may be reached in various ways and may learn to avoid at least some of the sources of typhoid. But education alone will not suffice. The state, through its health board, should be thoroughly informed of the condition of the water-supply of every town and city in the state. These public waters should be examined at least monthly by the State Laboratory of Hygiene, and these reports be made public. Where typhoid exists, and the supply is from a well, the attending physician or health officer should have the water examined.

Other possible sources of typhoid, as milk, raw fruits, and uncooked vegetables should be investigated. The campaign against the house-fly must continue.

It is clearly the legal and moral duty of the physician to promptly report all cases of typhoid, and to lend assistance in this prophylactic campaign.

Scarlet Fever

Your Committee insists that too many physicians are careless in the management of this disease. Why

call a mild case of this serious disease "scarlet rash" or "scarlatina" and lull the family into a false sense of security, and meanwhile supinely trust to luck while serious sequelæ and other malignant cases develop? Doubtless physicians sometimes honestly err in failing to recognize a mild case of scarlet fever, but such failure does not lessen their responsibility. "Eternal vigilance" should be the watchword. The well trained, conscientious physician takes no chances in the presence of a possible contagion.

Small-Pox

During the year 867 cases of small-pox were reported and one death. The disease continues to be of a mild type. The mildness of the disease makes it difficult to quarantine. Frequently patients afflicted with mild small-pox resist quarantine because they are not convinced that they have the disease. Their neighbors also not infrequently question the diagnosis, and as a result the attending physician and the health officer have difficulty in limiting the spread of a mild small-pox. The mild type of the disease also makes it more difficult to vaccinate others. Vaccination, the only prophylaxis against small-pox is not practiced as generally as it should be. With the present large per cent. of our population unvaccinated a severe form of small-pox would spread rapidly and result in a high mortality in almost any community in our state. Quarantine is unreasonable and ineffective in any attempt to control small-pox.

School Hygiene

We suggest that this Society should take a most active interest in school life. Better school houses should be built, especially in many rural districts and towns. The present physical conditions of school life are abnormal, and sometimes cruel. The hygienic conditions of some of our schools are but little improved over fifty years ago. The school house itself is often unsanitary. The heating, lighting and ventilating facilities of school rooms are sometimes extremely bad. Some rooms are overcrowded. It is the duty of our physicians to use their knowledge and influence in cooperating with school authorities and health boards in an advisory manner so that every pupil in the state may have more ideal hygienic conditions. The school inspection law recently enacted should be rigidly enforced.

The Health of Cities and Towns

Prosperity and happiness are greatly encouraged by good hygiene. The city or town with ideal conditions for health and comfort can make a strong appeal to intelligent and thrifty immigrants. It is like a city set upon a hill whose light cannot be hid.

Your Committee, by personal visitation, has recently been making a study of the health of many cities and towns in Indiana and other states. We believe that it is within the province of our Society to make a thorough investigation of the various phases of city and town life relating to hygiene, health and comfort.

This investigation should cover the following subjects: Water-supply; food-supply; dust; smoke; surface drainage; sewerage; light; noise.

This work might necessitate the appointment of a special committee.

FROM REPORT OF INDIANA STATE BOARD OF HEALTH

Number of Cases and Deaths of Each of the Various Contagious and Infectious Diseases

for 1910

	No. of Cases	No. of Deaths
Typhoid Fever	3,056	934
Typhus Fever	.....	0
Relapsing Fever	.....	1
Malaria	.....	151
Small-Pox	867	1
Measles	24,299	462
Scarlet Fever	4,968	205
Whooping Cough	1,090	459
Diphtheria	2,295	360
Croup	.....	21
Influenza	.....	701
Cholera Nostras	.....	20
Dysentery	.....	304
Epidemic Dysentery	.....	0
Erysipelas	140	140
Other Epidemic Diseases	.....	9
Tuberculosis of the Lungs	.....	3,853
Acute Miliary Tuberculosis	.....	68
Tuberculous Meningitis	.....	255
Abdominal Tuberculosis	691	325
Pott's Disease	.....	31
White Swellings	.....	28
Tuberculosis of other Organs	.....	62
Laryngitis	.....	25
Other Diseases of the Larynx	.....	16
Acute Bronchitis	.....	247
Chronic Bronchitis	.....	217
Broncho-Pneumonia	.....	917
Lobar-Pneumonia	.....	1,823
Pleurisy	.....	57
Cancer	.....	1,872
Cerebro-Spinal Fever	43	22
Rabies	70	4

H. A. Cowing, Chairman.

MEMBERS OF THE INDIANA STATE MEDICAL ASSOCIATION

ADAMS COUNTY

DECATUR
- S D Beavers
- J S Boyers
- E G Coverdale
- J M Miller
- W E Smith
- P B Thomas

GENEVA
- H M Aspey
- L L Mattox
- C R Price

PREBLE
- J C Grandstaff

BERNE
- Ernest Franz
- Darby Jones
- Amos Reusser
- C H Schenk

MONROE
- M F Parrish
- C C Rayl

PLEASANT MILLS
- J W Vizard

ALLEN COUNTY

FORT WAYNE
- Charles E Barnett
- W W Barnett
- Chas G Beall
- J E Bickel
- R M Bolman
- A P Buchman
- A E Bulson Jr
- J Carrithers Calvin
- W D Calvin
- W W Carey
- E A Crull
- Chas R Dancer
- Edw F De Vaux
- Jas M Dinnen
- J Frank Dinnen
- I W Ditton
- L P Drayer
- H A Duemling
- Norma B Elles
- C H English
- Wm Enslen
- A E Fauve
- L L Gardner
- J K Geary
- J H Gilpin
- H E Glock

Bertha Goba
G L Greenawalt
W O Gross
Allen Hamilton
S H Havice
Samuel Henderson
J Hetrick
J H Hosford
D D Johnston
C F Kaadt
A J Kesler
C C Kimmel
Edw Kruse
Noah Zehr
J E McArdle
A H McBeth
H S McBeth
G W McCaskey
J B McEvoy
J E McHugh
R B McKeeman
E J McOscar
E E Morgan
C C F Nieschang
A F Phillips
M F Porter
J M Pulliam
J H Ranke
B W Rhamy
M I Rosenthal
Geo A Ross
C J Rothschild
M F Schick
John Schilling
A L Schneider
W F Schrader
S D Sledd
J W Squires
Geo B Stemen
C B Stemen
Albert Stoler
Geo J Studer
J E Stultz
H V Sweringen
B Van Sweringen
G Van Sweringen
Philip Titus
E M Van Buskirk
J C Wallace
B P Weaver
K K Wheelock
Wm P Whery
Mary A Whery
R P White

HARLAN
Horace E Adams

NEW HAVEN
G G Brudi
L S Null

WHITING
B M Doolittle

HUNTERTOWN
Frank Greenwell
L T Rawles

MONROEVILLE
D E Kauffman
S E Mentzer
H E Steinman

POE
D J Mercer

MAPLES
I M Myers

LEO
E D Smith

SHELDON
D C Wybourn

BARTHOLOMEW CO

COLUMBUS
A J Banker
J W Benham
W H Butler
Bertha A Clouse
B T Daggy R R 1
B Fitzpatrick
E T Francis
Paul C Graham
R E Holder
H H Kamman
A M Kirkpatrick
G T MacCoy
D J Marshall
F D Norton
G E Reynolds
A P Roope
Lottie A Suverkrup
S M Voris
W E Wisner
E U Wood

HARTSVILLE
F J Beck

ELIZABETHTOWN
G O Cosby

AZALIA
O A DeLong

TAYLORSVILLE
P A Hobbs

WAYMANSVILLE
J I Maris

HOPE
E G Regennas

BENTON COUNTY

FOWLER
Arthur Le Sage
D E Mavity

OTTERBEIN
W A Smith

AMBIA
W H Taylor

BLACKFORD COUNTY

HARTFORD CITY
M M Clapper
C W Corey
H C Davisson
Samuel Hollis
Ella A Hollis
W A Hollis
J H D Lorimore
C A Sellers

MONTPELIER
G H Dando
F M Reynolds
C Q Shull
J A Taylor
Walter E Thornton

ROLL
Jno R Harrold
J C Kirkpatrick

BOONE COUNTY

JAMESTOWN
T A Bonnell

LEBANON
J R Ball
H A Beck
J H Black
G A Schultz
C L Smith
DeL Smith
Mary M Van Nuys
W H Williams

THORNTOWN
C Bassett
G K Hurt

ZIONSVILLE
J F Brendel
Oris E Brendel

REESE MILLS
C D Umberhine

CARROLL COUNTY

CAMDEN
Hugh Martin Hall
E N Kennedy
C M Kennedy
Charles E Scholl
B F Snyder

DELPHI
C E Angell
C E Carney
Albert Chas Clauser
P W Conway
C C Crampton
Wm R Quick
F H Robinson
W F Sharrer
J J Schultz

FLORA
E H Brubaker
M D Callane
B W Egan
T A Kearns
F P Lyons
T D Peter
Ed L Peter

BURLINGTON
O G Brubaker
A J Chittick

BURROWS
G M Buck
E D Wagoner

PYRMOUNT
J R Carney

ROCKFIELD
W H Galbreth
H Y Mullin

RADNOR
W O Gossett

YEOMAN
C C Hickman

DEER CREEK
J E Kitchell

CUTLER
W A Trobaugh

CASS COUNTY

LOGANSPORT
Chas A Ballard
J H Barnfield
J C Bradfield
N W Cady
John C Davis
J L Gilbert
F J Herrmann
Robert Hessler
J P Hetherington
H B Hill
W A Holloway
H C Johnson
J A Little
C H McCully
G D Miller
J V Nelson
J P Nicodemus
A L Palmer
Earl Palmer
J H Reed
Clark Rogers
Joseph Rubsam
J B Schultz
J J Stanton
J R Stewart
F W Terflinger
C L Thomas
R E Troutman
A W Tucker
Mary Widdop

WALTON
C C Campbell
C D Carpenter

GALVESTON
J Frank Cornell
Z U Loop
H H Miller

NEW WAVERLY
A E Graves
L L Quick

ROYAL CENTER
D R Ivey
Frank M Kistler

YOUNG AMERICA
Wm E Lybrook

TWELVE MILE
Lewis C Miller

CLARK COUNTY

JEFFERSONVILLE
David Cohen
C C Crum
E N Flynn
Austin Funk
O P Graham
C F C Hancock
H S Murat
D C Peyton
I N Ruddell
H H Smith
Geo W Twomey
Marshall Varble

CHARLESTOWN
David Coombs

HENRYVILLE
S B Elrod
James H Walker

SELLERSBURG
J M Howes

NEW WASHINGTON
J M Meloy
R S Taggart

MEMPHIS
J M Reynolds

WEST BADEN
H C Sharp

CLAY COUNTY

BRAZIL
G C Boyer
Harry Elliott

George W Finley
J C Gifford
L S Hirt
S G Hollingsworth
Julius Lambert
H L Muncie
Frederick Nussel
Wm H Orr
James A Rawley
Jacob F Smith
C C Sourwine
John D Sourwine
Lewis L Williams

BOWLING GREEN
R W Willeford

POLAND
Jas Wm Huffman

CORY
Oliver James
T M Weaver

HARMONY
Wm Palm
Melvin H Young

CARBON
George M Pell

CLOVERLAND
Harold J Pierce

KNIGHTSVILLE
Felix G Thornton

CLAY CITY
H R Vandivier

STAUNTON
Patrick H Veach

CLINTON COUNTY

FRANKFORT
M F Boulden
G W Brown
A A Chittick
Chas Chittick
A H Coble
O H Edmonds
W J Fernald
Oliver Gard
J W Hadley
T G McDonald
J E Robison
S B Sims

SCIRCLEVILLE
Harvey Bowers

ROSSVILLE
N W Clark

HILLISBURG
D E Cripe

COLFAX
I C Lambert

FORREST
Homer N Olliphant

KIRKLIN
W C Mount
A P Parker

SEDALIA
B O White

CRAWFORD COUNTY

ENGLISH
F R Gobbel
G B Hammond

MILLTOWN
G W Baylor
J J Johnson

LEAVENWORTH
H H Deen

MARENGO
Peter Grant

ALTON
J Myers

DAVIESS COUNTY

WASHINGTON
Maude Arthur
J W Clark
Henry Herr
A J Lane
Vance May
G L Parr
Charles P Scudder
D B Smoot
Thomas F Spink
George W Willeford
Charles H Yenne

ODON
J W Anderson
T B Rankin
Jerome Demotte

MONTGOMERY
O E Lett

PLAINVILLE
Ora K McKittrick
W O McKittrick
E D Millis

CUMBACK
Jas F Parks

DEARBORN COUNTY

AURORA
Marc L Bond
Wm F Duncan
Geo Hansell
W H Haynes
W C Henry
E J Libbert
S M McClure
J. L. McElroy
H H Sutton
Jas F Treon
Edward R Wallace

LAWRENCEBURG
A T Fagaly
O S Jacquith
F M Mueller
G F Smith

RISING SUN
L C Cowen
John Elfers
C W Shaw
Geo H Stephenson

GUILFORD
John C Elliott

MOORES HILL
D E Johnston

WEISBURG
Robt T Neffner

SUNMAN
C Newforth

NEW ALSACE
Wilbur Robinson

DECATUR COUNTY

GREENSBURG
John Alexander
P C Bentle
Chas R Bird
Curtis Bland
C F Kercheval
I M Sanders
R M Thomas
B S White
Jas M Wood

CLARKSBURG
Prosser E Clark

MILFORD
Geo S Crawford

WESTPORT
J C Hill
O F Welch

NEWPOINT
H S McKee

ADAMS
M A Tremain

LETTS CORNER
J A Welch

DEKALB COUNTY

AUBURN
L O Buchtel
J E Cooper
L M Geisinger
D M Hines
F M Hines
J D Nusbaum
W H Nusbaum
U G Souder
Chas S Stewart
Vesta Swarts
Willard W Swarts

WATERLOO
Frank Bevier
Frank Broughton
A B Darby
J E Showalter

CORUNNA
J H Allen
F S Browne

GARRETT
F R Burdeno
J A Clevenger
F A King
M E Klinger
J W Thompson

BUTLER
W F Shumaker

DELAWARE COUNTY

MUNCIE
G R Andrews
Clay A Ball
L L Ball
P C Barnard
N D Berry
H S Bowles
G W Bucklin
A A Cecil
H A Cowing
H D Fair
H P Franks
Ch Frazer
D M Green
Earl S Green
G R Green
F E Hill
F G Jackson
A T Kemper
G W H Kemper
E B Mann
T J Mansfield
C A Martin
C E Miller
W J Molloy
O W Owens
U G Poland
J C Quick
J M Quick
C G Rea
C W Smith
H R Spickerman
W A Spurgeon
O E Spurgeon
E F Tindal
I N Trent
A E Vinton
W W Wadsworth
H M Winans

EATON
J M Atkinson
C J Stover

NEW BURLINGTON
J N Bell

YORKTOWN
Frank Downing
C. H. Wright

GASTON
F W Dunn

SELMA
Chas A Jump
S G Jump

SHIDELER
Chas E Phipps

ALBANY
J M Vanderburg

DUBOIS COUNTY

FERDINAND
Victor Knapp
E E Schrieber
A G Wollenmann

HUNTINGBURG
H C Knapp
C R Ramsbrok
C W Schwartz

JASPER
A F Gugsell
Leo A Salb
J P Salb
E A Sturm

HILLHAM
Dr Farris

ELKHART COUNTY

ELKHART
F P Adams
C R Bassler
F A Benham
Fred N Dewey
Metius M Eckleman
Albert L Fisher
C F Fleming
J C Fleming
Charles W Frink
Charles D Goodrich
Elmer J Hagenbaugh
C W Haywood
E Holdeman

Geo B Hoopingarner
Enos M Hoover
Albert T Ingalls
Benj F Kuhn
E R Zimmerman
Reuben L Lockwood
R M Murphy
William A Neal
Allen A Norris
Frank Randolph
I Wright Short
Geo W Spohn
Walter A Stauffer
H O Staufft
Jas A Work Sr
Jas A Work Jr

GOSHEN
E E Ash
Irvin J Becknell
J A Cook
C S Dreese
Henry W Eby
A S Hollingsworth
A J Irwin
Geo Whitman Kirby
M K Kreider
William B Kreider
Herbert K Lemon
D L Miller
W P Page
James A Snapp
G A Whippy
B F Whitmer
Albert C Yoder

MIDDLEBURY
B F Teters

MILLERSBURG
W B Siders

NAPPANEE
Henry Defrees
Melvin Delbert Price
Wallace A Price
J S Scabaugh

NEW PARIS
W B Christophel
James Mathews
E D Stuckman

WAKARUSA
Aaron S Sensenich
S C Wagner

BRISTOL
H A Barbour

FORAKER
M T Brumbaugh

FAYETTE COUNTY

CONNERSVILLE
Jediah H Clark
Omar E Dale
Lurton D Dillman
R H Elliott
O P M Ford
Stanton E Gordin
Samuel N Hamilton
Harry M Lamberson
Joseph R Mountain
F J Spilman

LYONS STATION
U C Ambrose

EVERTON
F L Mitchell

GLENWOOD
Richard W Sipe
R R 29

FLOYD COUNTY

NEW ALBANY
James W Baxter
J E Bird
R K Brown
C P Cook
E P Easley
C C Funk
Robert W Harris
F W Hazlewood
John Hazlewood
J E Lawson
W J Leach
Mrs Alice M Maas
C W McIntyre
Anna McKamy
William Moore
R S Rutherford
H B Shacklett
E L Sigmond
W L Starr
W P Tebault
J F Weathers
F H Wilcox
W C Winstandley
H S Wolfe
John T Wray

OOLITIC
H F Bader

GALENA
C P Davis
A G Kimberger
C P Leuthart

FOUNTAIN COUNTY

ATTICA
C G Beckett
J Roy Burlington
M T Case
Chas J Finney
Albert C Holly
F M Jeffries
T W Kelsey
A M Sullivan

COVINGTON
J R Hicks
Horace N McKee
Geo W Rowland
Alva Spinning

VEEDERSBURG
W H Ross
F A Shoaf

WILLIAMSPORT
S S DeLancey
E W Kirk
G S Porter
F H Pugh

KRAMER
L A Bolling
Walter H Dinsmore

KINGMAN
F S Cuthbert

WEST LEBANON
Richard Stephenson

FRANKLIN COUNTY

BROOKVILLE
E M Glaser

OLDENBURG
P L Mull

FULTON COUNTY

ROCHESTER
I L Babcock
F C Bitters
Aaron L Bowman
Archibald Brown
C E Gould
M O King
C J Loring
J N Rannells
W S Shafer
H W Taylor

FULTON
F C Deilman
J Richards

LEITER'S FORD
C L Slonaker

ATHENS
A E Stinson

GIBSON COUNTY

EVANSVILLE
C F Diefendorf

VINCENNES
J M Saunders

FORT BRANCH
H L Bass
W F Morris

OAKLAND CITY
J W McGowan
R S Mason
W H Smith

OWENSVILLE
G B Beresford
T L Lockhart
J R Montgomery
Martin Montgomery
K S Strickland

PRINCETON
R S Anderson
W W Blair
A P Brown
A R Burton
R A Cushman
G C Kendle
F H Maxam
Chas A Miller
J L Morris
F M Payne
A H Rhodes
W C Squire
T Wertz
A L Ziliak

HAZLETON
H M Arthur

FRANCISCO
M L Arthur

PATOKA
S I Arthur

HAUBSTADT
V H Marchant
D H Swan

GRIFFIN
F M Martin R R 33

GRANT COUNTY

FAIRMOUNT
H.Glen Henley
D A Holliday
J W Patterson

MARION
R W Bartley
C O Bechtol
L M Bridge
C R Brown
V V Cameron
B C Dale
G R Daniels
A T Davis
C G Eckhart
R E Egbert
L H Eshelman
W A Fankboner
William Flynn
J E Johnson
J F Loomis
Jos Maurer
J D McKay
O W McQuown
Harry Miller
C J Overman
Nettie B Powell
M T Shively
H N Sweezey
E M Trook
Harry Williamson

RICHMOND
M S Bulla

UPLAND
H F Jeffries
E T Stout

SWEETSER
I S J Crumrine
G W Daniels

JONESBORO
J C Knight

HAMMOND
A W Lloyd

VAN BUREN
G G Richardson
J N Toney

GAS CITY
J C Ross

PT ISABEL
C B Vigus

GREENE COUNTY

BLOOMFIELD
T Roy Cook
W R Cravens
J W Gray
H R Lowder
E R Mason
F A Van Sandt

LINTON
P C Berns
T A Custari
Bruce Fleetwood
L A Hyde
A F Knoefel
B A Rose
E T Sherwood
B M Sherwood
J E Talbott
M N Thayer
A A Thomas

SWITZ CITY
J M Harrah
C D Mallett

WORTHINGTON
W H Beaty
J W Clifford
W M Davis
J B Young

LYONS
W A Aydelotte
B F Chambers
Thos A Burkhart

MARCO
L C Lukenbill

CARLISLE
G W Pirtle

DUGGER
E M Deputy
C M Lowder

HAMILTON COUNTY

NOBLESVILLE
J A Axline
W B Graham
J E Hanna
M C Haworth
E C Loehr
J D Sturdevant
H H Thompson
A R Tucker
F A Tucker
E E Wishard

WESTFIELD
L J Baldwin
A A Bond
Z H Fodrea

ATLANTA
L J Bills

ARCADIA
J L Hicks
C C Ray
Frank Rodenbeck

SHERIDAN
P S Johnson

CICERO
B A King
C H Tomlinson

JOLIETVILLE
E A Rainy
T O Redden

HANCOCK COUNTY

GREENFIELD
C A Barnes
C K Bruner
F W Creagor
Milo Gibbs
E R Gibbs
O H Heller
W R Justice
W R King
C W McGauhey
E R Sisson

CHARLOTTESVILLE
Joseph L Allen
W R Johnston

WILKINSON
A M Benjamin

McCORDSVILLE
Ed Bennett

MOHAWK
O A Collins

EDEN
J E Ferrell

FOUNTAINTOWN
E A Hawk
E B Miller

FORTVILLE
S W Hervey
C E McCord
Stewart Slocum

NEW PALESTINE
E E Mace

WARRINGTON
Ch Titus

MAXWELL
P E Trees

HARRISON COUNTY

CORYDON
W E Amy
John C Bottorf
Wm Daniel
F E Wolfe

ELIZABETH
Fred C Bierly

DEPAUW
John D Byrne

MAUCKPORT
Alfred Mathys

NEW MIDDLETON
S A Smoots
P H Schoen

CRANDALL
Frank T Tyler

NEW AMSTERDAM
W H Reader

HENDRICKS COUNTY

BROWNSBURG
A W Davidson
John L Marsh
Thos G Smith

DANVILLE
Geo G Allred
Joel T Baker
T J Barker
Thos J Beasley
W J Hoadley
W T Lawson
W M O'Brien
C A White

PLAINFIELD
Amos Carter
Ernest Cooper
John S Ragan
C B Thomas

STILESVILLE
L F Hicks

COATSVILLE
Stephen Hunt

CAMBY
Maria Jessup

CLAYTON
Rilus E Jones
D M Reynolds

NORTH SALEM
E Ray Royer

PITTSBORO
O H Osborne
O T Scamahorn
W H Terrell

HENRY COUNTY

KNIGHTSTOWN
E B Call
G H Smith
R A Smith

NEW CASTLE
C E Canaday
E S Ferris
H W Greist
O J Gronendyke
J E Hiatt
H H Koons
R L Lee
H W McDonald
C E VanMatre
D S Wiggins

BLOUNTSVILLE
Joseph Cramer

MOORELAND
E G Davis
C S Spitler

CADIZ
F C Hess

SPICELAND
E E Kirk
Robert Stuart

RICHMOND
S G Smelser

MILLVILLE
J E Tully

MIDDLETOWN
S C Waters

SHIRLEY
Ralph Wilson

HOWARD COUNTY

KOKOMO
C J Adams
S R Chancellor
T C Cochran
Edgar Cox
N C Hamilton
Wm H Harrison
O D Hutto
L M Knepple
Wm H McClurg
G D Marshall
A A Martin
W H Martin
Will J Martin
J McLean Moulder
J L Puckett
W I Scott
R F Scott
R H Smith
J W Wright

GREENTOWN
H C Miller
D C Peters
E U Powell

HEMLOCK
L Deweese

RUSSIAVILLE
Arthur Miller

HUNTINGTON COUNTY

ANDREWS
W E Poinier
O B Williams

HUNTINGTON
G H Brodbeck
W C Chafee
M C Clokey
E T Dippell
R F Frost
C W Fry
C H Good
Wallace S Grayston
B H B Grayston
C E Grayston
F W Grayston
J M Hicks
M H Krebs
H K McIlvain
F B Morgan
O O Nelson
G M O'Leary
N W Scott
A H Shaffer
W F Smith
R Q Taviner
Ervin Wright
C L Wright

MARKLE
M F Fisher
A H Northrup

ROANOKE
J W Kemp
Sylvanus Koontz
S V Wilking

WARREN
Claude S Black
W D Bonifield
H E Layman
J S Sprowl

BIPPUS
I C Perry

MT ETNA
G G Wimmer

JACKSON COUNTY

SEYMOUR
S Applewhite
Geo O Barnes
J H Carter
B Empson
G W Farver
M F Gerrish
Chas E Gillespie
G G Graessle
L B Mill
C A Hunter
G H Kamman
H R Kyte
H R Luckey
A G Osterman
D L Perrin
J K Ritter
L Ruddick
J M Shields
E D Wright

HOUSTON
C L Ackerman

EWING
D J Cummings Jr

MEDORA
D G Cummings Sr
Neal Matlock

CROTHERSVILLE
Albert May

BROWNSTOWN
N Harrod
Fred Heller

CORTLAND
J M Jenkins
D H Richards

KURTZ
Claude E Sims

JASPER COUNTY

RENSSELAER
W W Merrill
I M Washburn
C E English
A R Kressler
F H Hemphill
M D Gwin

DEMOTTE
L N Wells

JAY COUNTY

DUNKIRK
E C Garber
J B Garber
O P Murray

PENNVILLE
C E Caylor
H J Hiestand
W H Markley
Samuel Mason
F E Moyer

PORTLAND
R E Brokaw
G Chaney
J T Dickes
J W Hall
M T Jay
C W Mackey
J E Nixon
C A Paddock
G L Perry
W D Schwartz
I G Sims
W H Walker
Harriet Wiley

BRYANT
C Bockoven

RED KEY
C C Mills

JEFFERSON COUNTY

MADISON
E A Carlson
R W Cochran
E C Cook
J Cooperider
Fred C Denny
Chas Denny
Geo E Denny
H S Hatch
N A Kremer
E C Totten

NORTH MADISON
F H Austin
C C Copeland

CANAAN
J H Christie

HANOVER
Carl Henning

DUPONT
V Shepherd

KENT
S A Whitsett

JENNINGS COUNTY

NORTH VERNON
W L Grossman
D L McAuliffe
W J Mitchell
W H Stemm

BREWERSVILLE
S D Adams

PARIS CROSSING
R F Bannister
O Gaddy

ZENAS
W W Case
Chas C McFarlin

BUTLERVILLE
M F Daubenheyer

HAYDEN
L M Davis

MILAN
J W McClure

COMMISKEY
D W Mathews

VERNON
W H Richardson

DEPUTY
D W Robertson

NEBRASKA
H R Shotts

SCIPIO
W L Wilson
E D Wright

SAN JACINTO
W A Wildman

JOHNSON COUNTY

FRANKLIN
H J Hall
J H Lanam
Oran A Province
J N Record
B Wallace
L L Whitesides

GREENWOOD
L E Cox
J A Craig
R B McAlpin
D W Sheek

NINEVEH
E B Chenowith

WHITELAND
D L Phipps
R W Terhune
L P V Williams

TRAFALGAR
R D Willan
C E Willan

KNOX COUNTY

BICKNELL
W P Boal
W E Kessinger
T M Staley
L B Staley

DECKER
Royse Davis
E F Small

VINCENNES
S C Beard
N E Beckes
C W Benham
Eugene Bowers
C L Boyd
C S Bryan
D M Buley
P H Caney
W H Davenport
L J Downey
B B Griffith
Silas Hall
H W Held
J G Jones
A B Knapp
Geo Knapp
H McCormack
J N McCoy
J D McDowell
M M McDowell
T J McGowen
E Masgana
T H Maxedon
Mary H Michie
S A Prather
J P Ramsey
J W Smadel
J F Somes
C E Stewart

WHEATLAND
E H Tade
R S Wood

OAKTOWN
J Ashby
M A Johnston

MONROE CITY
A W Meyers

EDWARDSPORT
J L Reeve
J A Scudder

INDIANAPOLIS
J A Swartzel

KOSCIUSKO COUNTY

MILFORD
J E Potter
E Sockberger
F J Young

SILVER LAKE
N A Carey
Ira Leckrone

SYRACUSE
J H Bowser
L W Ford
B F Hoy

WARSAW
G W Anglin
C W Burket
C C Dubois
Wm L Hines
C N Howard
A C McDonald
T J Shackelford

ATWOOD
T J Clutter

ETNA GREEN
J W Dunfee

WINONA LAKE
J G Nehrbas

LEESBURG
P G Fermier
C E Thomas

MENTONE
J W Heffley
M G Yocum

CLAYPOOL
W C Landis
S C Murphy

PIERCETON
C E Leedy
C R Long

NORTH WEBSTER
J H Lyons
J H Sowers

SIDNEY
J L Warvel

LAGRANGE COUNTY

LA GRANGE
D W Dryer
A J Hostetler
C C Rozelle
Wm H Short
A R Wyatt

WOLCOTTVILLE
J E Rarick

HOWE
Frank Wade

LAKE COUNTY

EAST CHICAGO
G Bicknell
S Goldberger
W Roy Goodrich
G W Miller
A A Ross

GARY
C S Boardman
J A Craig
C A De Long
E E Evans
G L Greene
M S Hopper
H M Hosmer
W P Lane
J E Metcalf
I S Millstone
Ira Miltimore
G E Paff
I J Propper
C M Reyher
F W Smith
T J Toner
H F Walsh
Wm J White

HAMMOND
W A Buchanan
Cyrus Campbell
B W Chidlaw
F H Fox
E A Gilson
J A Graham
H C Groman
W F Howatt
L H Kelley
T W Kohr
H G Merz
G Miller
T W Oberlin
R O Ostrowski
Eleanor Scull
E M Shanklin
Wm D Weis
H J White
A A Young

WHITING
E L Dewey
C M Gillespie
G H Hoskins
A J Lauer
W E Putnam

CROWN POINT
J C Gibbs

HOBART
E R Gordon

INDIANA HARBOR
W E Greenwold
W L Hughes
Geo Orf
C C Robinson
J A Teegarden
Wm A Weisner

MERRILVILLE
H L Iddings

LOWELL
J W Iddings

TOLLESTON
F J McMichael
F Petry

LAPORTE COUNTY

LAPORTE
E L Annis
Bo C Bowell
D A Buck
C E Burleson
J H Fargher
R B Jones
H H Long
F A McGrew
H H Martin
G R Osborne
Wilbur W Ross
A R Simon
M S Smith
O L Sutherland
H J Thompson
Bessie A Vandeventer
F T Wilcox

MICHIGAN CITY
V V Bacon
E G Blinks
Paul Bowers
W Bowers
Nellie Cole
C W Cleveland
M L Drescher
W Eberhardt
J J Kerrigan
J V Kerrigan
J N Ledbetter
F R Leeds
F V Martin
J W Milligan
J B Rogers
J W Snyder
A G Tillotson
F R Warren
L A Wilson

HANNA
E F W Crawford

WESTVILLE
B W Hollenbeck
J N Kelley

WANATAH
S W Hooke

ROLLING PRAIRIE
J S Martin
J E Whitehill

UNION MILLS
R B Short

STILLWELL
Wm Wakinshaw

LAWRENCE COUNTY

BEDFORD
L G Boyd
J B Duncan
Chas H Emery
Joseph D Heitger
Freeman S Hunter
A J McDonald
E E Mitchell
O B Norman
John R Pearsons
E L Perkins
Chas E Rariden
Richard B Short
Morrell Simpson
Wm. H Smith
Harvey Voyles

MITCHELL
John A Gibbons
G L Gibbons
J C Kelly
Walter C Sherwood

RIVERVALE
John R Andrews
T W Bullitt

HELTONVILLE
Jasper Cain
Perry Woolery

OOLITIC
A W Dierking

AVOCA
Claude Dollens

WILLIAMS
John T McFarlin

LEESVILLE
Spencer W Smith

MADISON COUNTY

ALEXANDRIA
Joseph E Hall
F A Keller
A E Otto
L F Schmaus
C D Shurtz

ANDERSON
J C Armington
M A Austin
E M Conrad
B H Cook
J W Crismond
J B Fattic
W P Harter
Horace E Jones
Thos M Jones
Dorris Meister
I Miley
S C Morris
S C Newlin
B H Perce
Jonas Stewart
J R Tracy
G A Whitledge
L O Williams
C. F. Williams
S C Wilson
N S Woods

ELWOOD
T O Armfield
J F Ginn
F F Mendenhall
C P Runyan
A W Tobias
E L Wiggins

PENDLETON
L E Alexander
O W Brownback
John W Cook
Wm. R Sparks

SUMMITVILLE
Etta Charles
Seth Irwin
L F Mobley
Jno W White
Francis White

PERKINSVILLE
Wm M Garretson

CHESTERFIELD
J T Newhouse

LAPEL
T J Stephenson

MARION COUNTY

INDIANAPOLIS
J C Alexander
Horace R Allen
D A Anderson
J C Anderson
A L Ayres
Max A Bahr
I C Barnes
J F Barnhill
M J Barry
W S Beck
H F Beckman
Guido Bell
J M Beraver
D F Berry
James W Birchfield
J J Boaz
H K Bonn
J V Bower
A W Brayton
Jas H Brill
Ed A Brown
B A Brown
Jacob Buehler
John H Bull
Louis Burkhardt
E W Burris
C L Cabalzer
S H Caraway
Chas A Carter
C Chamberlin
R S Chappell
F R Charlton
J P Christie
E D Clark
W F Clevenger
L C Cline
Paul B. Coble
A B Cole
C J Cook
Geo J Cook
G W Combs
C E Cottingham
J M Cunningham
J Q Davis
T W DeHass
M O Devaney
W T S Dodds
F O Dorsey
E E Dougherty
W S Dow
F T Dowd
E J Dubois
T J Dugan
L M Dunning
C O Durham
Samuel E Earp
J Rilus Eastman
J H Eberwein
G F Edenharter
Roy Egbert
W C Engle
L A Ensminger
Bernard Erdman
Ord Everman
C E Ferguson
Robert Fischer
J H Ford
K C Ford
W H Foreman
D W Fosler
F W Foxworthy
J L Freeland
H L Fulenwider
S A Furniss
H E Gabe
W P Garshwiler
H G Gaylord
H C Gemmel
C S Goar
Hannah Graham
N P Graham
A B Graham
J J Gramling
M N Hadley
H G Hamer
A R Harold
N E Harold
C C Haskell
Marie Haslep
S J Hatfield
G R Hays
F C Heath
Henry Heinrichs
T W Helming
E C Helwig
R G Hendricks
Henry Hendricks
A Henry
W I Hoag
E F Hodges
Fletcher Hodges
T C Hood
W D Hoskins
G H F House
J E Hughes
W F Hughes
C D Humes
J N Hurty
H A Hutcheson
G B Jackson
H A Jacobs
A S Jaeger
H Jameson
K I Jeffries
N E Jobes
W F Johnson
T C Kennedy
Bernays Kennedy
Jane M Ketcham
G D Kahlo
A C Kimberlin
E F Kiser
W B Kitchen
Helene Knabe
E S Knox
John Kolmer
J J Kyle
D F Lee
H S Leonard
E O Lindenmuth
Goethe Link
Henry Lohrman
Wm H Long
J B Long

O C Lukenbill
R O McAlexander
C H McCaskey
Maud McConnell
J F McCool
P E McCown
J A McDonald
H R McKinstray
J B McLeay
Chas McNaull
S H Malpas
A L Marshall
Paul F Martin
C W Marxer
J L Masters
Allison Maxwell
W F Molt
H A Moore
J E Morris
F A Morrison
J D Moschelle
E B Mumford
O C Neier
C F Neu
John R Newcomb
T B Noble
H Ostroff
R C Ottinger
E M Outland
F V Overman
E E Padgett
L F Page
H O Pantzer
H C Parker
A C Pebworth
F L Pettijohn
O G Pfaff
J A Pfaff
C A Pfafflin
J M Phipps
Theo Potter
J V Reed
R E Repass
E C Reyer
C L Ritter
R H Ritter
J F Robertson
P F Robinson
David Ross
Geo S Row
L M Rowe
C R Schaefer
S P Scherer
A J Schneider
Guy Seaton
W N Sharp
Wm Shimer
F N Shipp
J P Simonds
Martha J Smith
C R Sowder
M A Spink
Urbana Spink
C E Stephenson
A E Sterne
J O Stillson
Sarah Stockton
L A E Storch
F L Sullivan
J A Sutcliffe
Ada E Schweitzer
J H Taylor
J L Thompson
Moses Thorner
J R Thrasher
A L Thurston
H S Thurston
R N Todd
W S Tomlin
O N Torian
F L Truitt
H E Turner
C F Voyles
T A Wagner
E D Wales
F C Walker
C L Ward
A O Ward
Fred C Warfel
Patrick J Watters
H H Weer
H J Weil
G M Wells
J T Wheeler
H H Wheeler
Edward A Willis
W N Wishard
C S Woods
G V Woolen
H M Woolen
F B Wynn

BEECH GROVE
D S Adams

MARTINSVILLE
Edwin G Kyte

SOUTHPORT
A C Barnes

NEW AUGUSTA
G A Cable
L O Carson
W B McDonald

BRIDGEPORT
W L Jennings

WEST NEWTON
Geo W Lee
Barclay Ratliff

JULIETTA
J H Payne

LAWRENCE
Luther H Ratliff

MARSHALL COUNTY

CULVER
H H Tallman
E E Parker
B W S Wiseman

PLYMOUTH
J W Eidson
Lorenzo D Eley
A C Holtzendorff
C F Holtzendorff
S C Loring
H P Preston
R C Stephens

BOURBON
L A Jeffries

BURR OAK
John B Shipley

TYNER
A A Thompson

MARTIN COUNTY

LOOGOOTE
G W Boner
Wm Gilkison
G M Robinson
J W Strange
J C Trueblood

SHOALS
E E Long
H W Shirley
J N Sims R F D
Chas E Stone

TRINITY SPRINGS
T C Dollens

INDIAN SPRINGS
J S Gilkison

BURNS CITY
T A Hays

MIAMI COUNTY

MACY
P B Carter
M H Taylor

PERU
E H Andrews
E M Bloomfield
Omer U Carl
E H Griswold
C J Helm
A H Kalbfleisch
O R Lynch
F M Lynn
B S McClintick
D C Ridenour
Jared Spooner
M L Wagner
O C Wainscott
J O Ward
E S Waymire
J E Yarling

BUNKER HILL
John Freezee
L S Wallace

DEEDSVILLE
J C Fretz

CONVERSE
M C Kimball

CHILI
H E Line

WABASH
P G Foust

MIAMI
E A Mills

AMBOY
F L Resler

MONROE COUNTY

BLOOMINGTON
Raymond A Akin
H R Alburger
Fred H Batman
W N Culmer
Fletcher Gardner
G F Genolin
C E Harris
J E P Holland
Geo F Holland
P C Holland
J E Luzadder
B D Myers
Augustus Pohlman
John C Ross
Rodney D Smith
Chas C Strup
J P Tourner
Leon E Whetsell
J W Wiltshire
Homer Woolery

STANFORD
J E Moser

MONTGOMERY COUNTY

CRAWFORDSVILLE
Paul J Barcus
J L Beatty
E W Cowan
J F Davidson
F A Dennis
S L Ensminger
J R Etter
A P Fitch
H E Greene
Martha H Griffith
T J Griffith
B F Hutchings
O H Jones
E W Keegan
F O Schenck
H W Sigmond
W G Swank
G T Williams

WAVELAND
T L Ball
K K Straughan

LADOGA
W F Batman
S R Peacock

WAYNETOWN
H M Bounnell
A N Hamilton

NEW ROSS
J C Burkle

NEW MARKET
C H Walden
J P Wolf

MORGAN COUNTY

MARTINSVILLE
George Breedlove
Robert Egbert
Frank Maxwell
W J Sandy
O A Sweet

PARAGON
H H Dutton

NOBLE COUNTY

ALBION
W F Carver
W T Green
J W Hays
Woodward Hays
S W Lemmon
B E Miller
J W Morr

KENDALLVILLE
A G Coyner
C A Gardner
J L Gilbert
C B Goodwin
H O King
N J Shook
W S Williams

LIGONIER
F W Black
F R Clapp
W H Franks
W A Shobe
M C Vandeventer

WOLF LAKE
E W DePew
J E Luckey

CHURUBUSCO
O P Franks

LA OTTO
E A Ish

KIMMELL
C Lane

AVILLA
F C Maloney
W M Veazy

CROMWELL
J H Nye
H G Tucker

ROME CITY
B Pulskamp

WAWAKA
C A Seymoure

ORANGE COUNTY

FRENCH LICK
Joseph R Dillinger
F E Hammond
G D Kahlo
Lynn Rogers
W W Sloan

ORLEANS
Robert E Baker
W H Patton
T B Ritter
O H Stewart

PAOLI
Charles L Boyd
Laban Lindley
S L Lingle
S F Teaford

WEST BADEN
Clarence E Boyd
C W Dowden
Mart Hassenmiller
H L Miller

LEIPSIC
G G Colglazier

OWEN COUNTY

ELLETSVILLE
O K Harris
W W Harris

GOSPORT
H A Fox
H G Osgood
F V Stucky
G E Willoughby

SPENCER
R R Coble
N D Cox
O F Gray
Allen Pierson

STINESVILLE
W R Holtzman

PATRICKSBURG
A C Kennedy

QUINCY
D H McDonald

CATARACT
Wm McQueen

INDIANAPOLIS
F M Wiles

COAL CITY
B Yocum

PARKE COUNTY

ROCKVILLE
W H Gillum
H B Leavitt
A B Lockridge
O E Maddox
C C Morris
C W Overpeck
H C Rogers
R E Swope

CLINTON
H E Washburn

MECCA
T J Collings

BLOOMINGDALE
Robert F Hester

BELLMORE
Alonzo Martin
R C Peare

MONTEZUMA
R L Dooley
O A Newhouse

JUDSON
J T Norman

ROSEDALE
C S White

MARSHALL
A A Williamson

PERRY COUNTY

TELL CITY
Chas M Brucker
Hardin S Dome
Wm H Muelchi

CANNELTON
D S Conner
W F Wedding

TROY
D C Dome
E R Snyder

ROME
J H Lee

BRISTOW
Addison L Mayfield

LEOPOLD
J E Taylor

PIKE COUNTY

PETERSBURG
T W Basinger
J W Coleman
G B Grim
W M Hunter
E S Imel
J T Kime
T R Rice

OTWELL
C Abbott

WINSLOW
W J Bethel

GLEZEN
S R Clark

ALGIERS
A R Logan

PORTER COUNTY

VALPARAISO
R D Blount
J C Carson
G R Douglas
H M Evans
H E Gowland
A P Letherman
D J Loring
O B Nesbitt
E H Powell
J A Ryan
G H Stoner
J F Take
S J Young
P D Nolan

POSEY COUNTY

CYNTHIANA
J E Gudgel
S B Montgomery
I L Turman

MT VERNON
C H Fullenwider
D C Ramsey
H H Sugg
U G Whiting

NEW HARMONY
C L Rawlings

WADESVILLE
Chas Arburn
W L Miller

OLIVER
C P Barrett

POSEYVILLE
S W Boren

ARMSTRONG
Carl Flucks

STEWARTSVILLE
J P Gibson
R M Stormont

CABORN
T J Hall

NEW HARMONY
T W Wilson

PUTNAM COUNTY

GREENCASTLE
J F Gillespie
E Hawkins
W R Hutcheson
J M King
W McGaughey
P Mullinix
C Sudranski
W W Tucker
C T Zaring

TERRE HAUTE
E T Zaring

MT MERIDIAN
J V Bastin

ROACHDALE
C C Collins

NEW MAYSVILLE
J E Cullipher

BAINBRIDGE
J F Cully

COATSVILLE
C F Hope
U A Wright

PUTNAMVILLE
A H Horn

CLOVERDALE
E M Hurst
J L Preston

BARNARD
Y N New

ROACHDALE
C N Stroube

RANDOLPH COUNTY

FARMLAND
Chas L Botkin
O E Current
John Nixon

UNION CITY
Mary O Cromer
Granville Reynard
Edward G Reynard
F McK Ruby

WINCHESTER
F A Chenoweth
M L Hunt
Grant C Markle
Chas E Milligan
James H Moroney
E W Rine

LYNN
C R Cox

PARKER CITY
Howard O Drumm
A G Rogers

SPARTANBURG
T W Morgan

RIDGEVILLE
D C Roney

SARATOGA
C E Spitler
C A Spitler

RIPLEY COUNTY

OSGOOD
T M Brenton
E D Freeman
H G Nelson
R C Townsend

VERSAILLES
Geo T Beckett
T E Hunter

BATESVILLE
M J Coomes
Chas W Gibson

NAPOLEON
Lafayette T Cox

NEW MARION
John N Hess

HOLTON
Chas E Holton

ST MAGDALEN
M F Kraemer

MILAN
R T Olmsted
John R Pate

DELAWARE
T H Payne

CROSS PLAINS
Chas D Ryan

PIERCEVILLE
B Whitlatch

RUSH COUNTY

MILROY
C S Houghland
J R Hume
S C Thomas

RUSHVILLE
R T Blount
J F Bowen
W S Coleman
L M Green
F H Green
F G Hackleman
H V Logan
C H Parson
J C Sexton
W C Smith
W H Smith
D D VanOsdol
E I Wooden

MANILLA
Emerson Barnum
J D Green

GLENWOOD
H H Elliott
E J T Paxton

FALMOUTH
C L Rea

MAYS
C L Smullen

ST JOSEPH COUNTY

SOUTH BEND
S W Baer
Walter H Baker
A E Barber
A C Bartholomew
J B Berteling
E R Borley
Chas Bosenbury
H Boyd-Snee
C M Butterworth
S A Clark
C B Crumpacker
C A Daugherty
R B Dugdale
F P Eastman
J H Fears
H A Fink
U G Galloway
A P F Gammack
W A Hager
C E Hansel
J W Hill
W H Hillman
S L Kilmer
E J Lent
N S Lindquist
H M Miller
H F Mitchell
H T Montgomery
E P Moore
E H Myers
T A Olney
W L Owen
C A Rennoe
R L Sensenich
R C Shanklin
Chas Stoltz
F J Swantz
C C Terry
J A Varier
C E Varier
Charles R Vickery
Oscar Von Barandy
C A Warwick
W G Wegner
W A Wickham

CRUMSTOWN
J R Brown

WALKERTON
M S Denaut
W F Miranda
S P Tracy

SCOTT COUNTY

SCOTTSBURG
T E Biery
G F Cline
W L McClain
Levi McClain
O C Murphy
J P Wilson

AUSTIN
A P Kendall

SHELBY COUNTY.

SHELBYVILLE
Laura Carter
H M Connelly
Morris Drake
T G Green
B G Keeney
Samuel Kennedy
W H Kennedy
T C Kennedy
Walter C McFadden
J W Parrish
H E Phares
Frank E Ray

BOGGSTOWN
B H Boone
S L Stickler

BLUE RIDGE
G I Inlow

WALDRON
J E Keeling

MORRISTOWN
V C Patton

LEWIS CREEK
Chas Perry

FLAT ROCK
D A Pettigrew

WALDRON
D F Randolph

LONDON
T R Rubush

FAIRLAND
J W Snyder
M M Wells

SPENCER COUNTY

ROCKPORT
C H Adye
Otto Baumgartner
Eva J Buxton
C D Ehrmann
S C Lang
J R Lang
H G Weiss

CHRISNEY
C S Baker
S P Gwaltney

GENTRYVILLE
G W Bradley

LINCOLN CITY
S L Carson

LAKE
G B De Tar
J C Jolly

HATFIELD
J C Glackman
G W Horrom

NEWTONVILLE
Harry Harter

ST MEINRAD
Nicholas A James

DALE
D V McClary

SANTA CLAUS
J J Schweitzer

VINCENNES
W H Williams

GRANDVIEW
S W Stuteville
H Q White

STEUBEN COUNTY

ANGOLA
T J Creel
T B Humphrey
W H Lane
Mary T Ritter
P N Sutherland
W H Waller
Wm F Waller
H D Wood
T F Wood

HAMILTON
J F Cameron
O G McFarland

HUDSON
A J Kimmel

PLEASANT LAKE
G N Lake

FLINT
H A Nichols

METZ
O H Swantusch

FREMONT
R L Wade

SULLIVAN COUNTY

DUGGER
T S Bedwell

SHELBURNE
J B Maple
E E Robards
J H Wrork

SULLIVAN
C F Briggs
E M Corbin
J R Crowder
Paul Higbee
J H Neff
G D Scott
E D Thixtun
W N Thompson

FAIRBANKS
H E Bland
Aurel Goodwin

MEROM
James Miles
J J Parker

FARMERSBURG
J T Oliphant
R H Vancleave

SWITZERLAND COUNTY

VEVAY
L H Bear
R M Copeland
Scott Culbertson
John H Shadday
John W Smith
Hugh M Thiebaud
John P Ward

MOOREFIELD
G W Copeland

EAST ENTERPRISE
D E Douglas

FLORENCE
H J Told

TIPPECANOE COUNTY

LAFAYETTE
A C Arnett
Ernest S Baker
Geo F Beasley
Robert M Campbell
F S Crockett
Edward C Davidson
C C Driscoll
Roy V Hannell
Jas D Hillis
Chas Hupe
Geo F Keiper
Chas B Kern
Manson M Lairy
Guy P Levering
Urban A Lyle
Adah McMahan
W H Moore
John R Morrison
W H Peters
Wm M Reser
Geo Revis
Edw B Ruschli
Adam W Schreiber
J W Shafer
Roger S Tea
Oliver P Terry
Frank B Thompson
Geo K Throckmorton
Earl Van Reed
Wm S Walker
S S Washburn
John C Webster
Arthur B Westfall
R B Wetherell
Milton C Wilson

BATTLE GROUND
Frank M Biddle

WEST LAFAYETTE
A W Bitting
C Vinton Davisson
W R Moffett

STOCKWELL
W F Butler

DAYTON
W F McBride

ROMNEY
Ora L McCay
Thomas E Mitchell

CLARK'S HILL
Henry M Mugg

WEST POINT
Calvin L Rowland
Geo R Tubbs

COLBURN
Robt H Wagoner
NEW RICHMOND
Curtis M Wray

TIPTON COUNTY

TIPTON
A S Dickey
A W Gifford
H E Grishaw
W E McKee
M V B Newcomer
H G Read
GOLDSMITH
S M Cotton
HOBBS
S G Downing
KEMPTON
W F Dunham
M T Ploughe
SHARPSVILLE
H S Gifford
GOLDSMITH
E I Hinkle
WINDFALL
T W Longfellow
CURTISVILLE
B B Thorp

UNION COUNTY

LIBERTY
E R Beard
Franklin T DuBois
H M Egolf
J E Morris
Garrett Pigman
W A Thompson
COLLEGE CORNER
W H Hawley

VANDERBURGH COUNTY

EVANSVILLE
C P Bacon
J N Baughman
L B Bitz
L D Brose
Tony L Bryan
G W Buckner
D B Cain
W F Cleveland
W R Cleveland
W H Coleman
M J Compton
E Conover
Gladys A Cooper
W R Davidson
F L Davis
H T Dixon
W S Ehrich
S J Eichel
W H Field
B L W Floyd
L E Fritsch
W A Fritsch
W H Gilbert
J F Glover
Geo F Greenleaf
F A C Hankins
C B Harpole
C A Hartley
C W Hartloff
A M Hayden
L Heimann
M D Hudson
W A Hunt
J N Jerome
G C Johnson
Geo E Jones
C Kelsay
J H Kerth
C Knapp
A J Knapp
B J Knapp
S R Laubscher
C E Laughlin
W Laval
P Linthicum
E Linthicum
J W Lorenz
J C McClurkin
W E McCool
P Y McCoy
E C Macer
Thos. Macer
A I Munson
H E Nenneker
W S Pollard
W S Pritchett
M Raydin
W J Reavis
P C Rietz
B S Rose
T H Taylor
G W Tepe
Jas Thomas
D G Tweedall
G W Varner
E J Verwayne
R W Viehe
C G Viehe
C H Viehe
Edwin Walker
P Warter
J B Weever
J Y Welborn
J H Willis
W P Woods
L Worsham
G M Young
INGLEFIELD
B W Begley
J W Stork
W F Clippinger
HOWELL
D A Cox
E H C Heusler
H C Knapp
J W Phares
M W Rothrock

VIGO COUNTY

TERRE HAUTE
O O Alexander
W E Bell
H L Bernheimer
D A Bethea
J R Bloomer
J C Bohn
M A Boor
David Bopp
L Z Breaks
A L Cabell
A H Caffee
B V Caffee
Ott Casey
Chas N Combs
M R Combs
J H Cook
J A Cooper
G W Crapo
W G Crawford
C H Edwards
James Elliott
O E Fink
D H Forsyth
Jos. Frisz
J R Gillum
J H Hewitt
B M Hutchings
W O Jenkins
F H Jett
Geo T Johnson
Jos Kunkler
M H Kutch
C R LaBier
E L Larkins
E W Layman
R H Leavitt
John R Love
L P Luckett
E B McAllister
E C McBride
James McCall
F G McCarthy
J B Maguire
W R Mattox
D B Miller
D T Miller
H M Mullikin
E S Niblack
Charles Patton
A G Porter
S M Rice
Walker Schell
J S Shaffer
C M Smick
O R Spigler
T C Stunkard
F A Tabor
J H Weinstein
F E Wiedemann
L J Willien
W F Willien
R L Woodard
J P Worrell
Charles Wyeth
S J Young
J Rudolph Yung
WEST TERRE HAUTE
Richard Belt
Rufus J Danner
J S Hunt
W L Mapes
E L Mattox
V A Shanklin
COALMONT
W D Asbury
H H Ward
RILEY
Jas W Brunker
SEELEYVILLE
C S Carmichael
T C Louks
NEWPORT
I M Casebeer
CAYUGA
W P Darroch
S C Darroch
RILEY
C M DuPuy
BLACKHAWK
J D Foor
LEWIS
C C Givens
EDWARDS
D W Hebble
CLINTON
J T Newton
D C Schaff
PRAIRIE CREEK
W F Payne
J R Wilson
DANA
G W Tucker

WABASH COUNTY

NORTH MANCHESTER
G D Balsbaugh
Emma G Holloway
F S Kitson
Geo L Shoemaker
WABASH
W A Domer
B A Houser
L E Jewett
L W Jordan
P G Moore
L W Smith
Mrs L F J Smith
N H Thompson
James Wilson
SOMERSET
Henry Ader
A E Rogers
LAFONTAINE
C L Dicken
URBANA
M E Renner

WARRICK COUNTY

BOONVILLE
O O Deforest
E M Folsom
W P Ford
J G Hoover
P N Hoover
G F Martin
W H Mills
W P Robinson
J T Samples
E L Youngblood
CHANDLER
W A Hewins
W A Hunt
ELBERFIELD
G H Kister
SELVIN
C E Springstun
FOLSOMVILLE
E A West
YANKEETOWN
Dalton Wilson
NEWBURG
W Wilson
LYNVILLE
J Zimmerman

WASHINGTON COUNTY

SALEM
Wm R Boggs
Chas W Murphy
Richard J Wilson
PEKIN
W L Green
HARDINSBURGH
Frank A May

WAYNE COUNTY

CAMBRIDGE CITY
H B Boyd
W R Littell

J R Mauk
J N Study
J E Wright
CENTERVILLE
I O Allen
J M Fouts
RICHMOND
J C Blossom
C S Bond
S E Bond
A L Bramkamp
F P Buche
J M Bulla
H C Burcham
C P Colburn
T H Davis
U B G Ewing
L M Gentle
R R Hopkins
W G Huffman
M F Johnston
J E King
F W Krueger
S C Markley
Charles Marvel
R D Morrow
S J Morrow
R J Pierce
L F Ross
R Schillinger
D W Stevenson
J M Thurston
J M Wampler
J E Weller
Mary Wickens
M W Yencer
EASTHAVEN
L B Carter
E S Smith
ECONOMY
J B Clark
A L Loop
HAGERSTOWN
O N Deardorff
C I Stotelmyer
GERMANTOWN
A E Ehle
DUBLIN
V N Fackler
C E McKee
FOUNTAIN CITY
W T Griffis
O N Huff
WILLIAMSBURG
Verl Griffis
W M Helm
BOSTON
J B Meek
MILTON
C A Roark
I F Sweeney

WELLS COUNTY

BLUFFTON
A W Brown
L H Cook
G E Fulton
J C Fulton
I N Hatfield
J W McKinney
L Mason
C H Mead
J L Redding
Edwin Rinear
Louis Severin
S A Shoemaker
L A Spaulding
TOCSIN
C L Blue
CRAIGVILLE
E P Davenport
KEYSTONE
R E DeWees
PETROLEUM
F M Dickason
OSSIAN
E W Dyar
F A Metts
LIBERTY CENTER
F W Garrett
ZANESVILLE
J L McBride
VERA CRUZ
M W McClain
MT ZION
Th Morris
PONETO
G B Morris

WHITE COUNTY

MONON
Ross M Reagan
MONTICELLO
Guy R Coffin
Arthur B Cray
M T Didlake
Grant Goodwin
H B Gable
WOOLCOTT
A J Blickenstaff
W A Spencer
CHALMERS
A C Chenowith
W B Morris
BURNETTSVILLE
J P Galbreth
Walter McBeth
IDAVILLE
H R Minnick

WHITLEY COUNTY

COLUMBIA CITY
F G Grisier
W F King
N I Kithcart
D S Linville
B P Linville
E V Nolt
O V Schuman
C L Souder
Alice B Williams
CHURUBUSCO
Jesse H Briggs
F M Magers
SOUTH WHITLEY
E L Eberhardt
N W Webster
HECLA
J W C Scott
LARWILL
L W Tennant
LAUD
R S White

MISCELLANEOUS

Jas Blackburn
Petersburg Ky
J H Calvert
Milton Ky
W C Cauble
671 Vanderbilt av
Brooklyn N Y
C L Crawford
Dexter New Mexico
L L Culp
Ft. Torren N D
Ephraim Derbyshire
Kissimmee Fla
K C Evans
Payne Ohio
J W Green
Lead S Dak
Eugene E Hamilton
Bentley N Dak
W H Harrison
123 Clark ave
Chicago
E O Harold
Kansas City Kan
A J Hermann
Los Angeles Cal
Wm A Hobday
Goldfield Nev
W W Kemper
Lancaster Ohio
Millard Knowlton
New York City
G B Lake
Washington D C
B Elizabeth Malone
Columbus Mont
R E Marshall
Walla Walla Wash
J A Mattison
Hot Springs So Dak
Harlan E Mize
Pueblo Colo
J D Morgan
Dixon Ohio
John Spaulding
Tyro Kans
Wm Spaulding
Poplar Bluff Mo
F L Stallings
Lindsay Cal
Edward L Swadener
Keshena Wis
W E Thomas
Chicago Ill
Thomas L Thompson
Pasadena Cal
A Wm Vogt
Danville Ill
A G Wolferman
Los Angeles Cal
C Weidner
Hartford Conn
D R Saunders
Guthrie Okla

LIST OF PRESIDENTS AND VICE-PRESIDENTS OF THE INDIANA STATE MEDICAL ASSOCIATION SINCE ITS ORGANIZATION

PRESIDENTS

Names.	*Residences.*	*Elected*	*Served*
Livingston Dunlap	Indianapolis	1849	1849
William T. S. Cornett	Versailles	1849	1850
Asahel Clapp	New Albany	1850	1851
George W. Mears	Indianapolis	1851	1852
Jeremiah H. Brower	Lawrenceburg	1852	1853
Elizur H. Deming	Lafayette	1853	1854
Madison J. Bray	Evansville	1854	1855
William Lomax	Marion	1855	1856
Daniel Meeker	Laporte	1856	1857
Talbott Bullard	Indianapolis	1857	1858
Nathan Johnson	Cambridge City	1858	1859
David Hutchinson	Mooresville	1859	1860
Benjamin S. Woodworth	Fort Wayne	1860	1861
Theophilus Parvin	Indianapolis	1861	1862
James F. Hibberd	Richmond	1862	1863
John Sloan	New Albany	1863	1864
John Moffett (acting)	Rushville	1864	1864
Samuel M. Linton	Columbus	1864	1864
Myron H. Harding	Lawrenceburg	1865	1865
Wilson Lockhart (acting)	Danville	1865	1866
Vierling Kersey	Richmond	1866	1867
John S. Bobbs	Indianapolis	1867	1868
Nathaniel Field	Jeffersonville	1868	1869
George Sutton	Aurora	1869	1870
Robert N. Todd	Indianapolis	1870	1871
Henry P. Ayres	Fort Wayne	1871	1872
Joel Pennington	Milton	1872	1873
Isaac Casselberry	Evansville	1873	1874
Wilson Hobbs	Knightstown	1873	1874
Richard E. Haughton	Richmond	1874	1875
John H. Helm	Peru	1875	1876
Samuel S. Boyd	Dublin	1876	1877
Luther D. Waterman	Indianapolis	1877	1878
Louis Humphreys	South Bend	1878	....
Benjamin Newland (acting)	Bedford (V.-P.)	1878	1879
Jacob R. Weist	Richmond	1879	1880
Thomas B. Harvey	Indianapolis	1880	1881
Marshall Sexton	Rushville	1881	1882
William H. Bell	Logansport	1882	1883
Samuel E. Munford	Princeton	1883	1884
James H. Woodburn	Indianapolis	1884	1885
James S. Gregg	Fort Wayne	1885	1886
General W. H. Kemper	Muncie	1886	1887

Names.	Residences.	Elected	Served
Samuel H. Charlton	Seymour	1887	1888
William H. Wishard	Indianapolis	1888	1889
James D. Gatch	Lawrenceburg	1889	1890
Gonsolvo C. Smythe	Greencastle	1890	1891
Edwin Walker	Evansville	1891	1892
George F. Beasley	Lafayette	1892	1893
Charles A. Daugherty	South Bend	1893	1894
Elijah S. Eider	Indianapolis	1894	1895
Charles S. Bond (acting)	Richmond	1894	1895
Miles F. Porter	Fort Wayne	1895	1896
James H. Ford	Wabash	1896	1897
William N. Wishard	Indianapolis	1897	1898
John C. Sexton	Rushville	1898	1899
Walker Schell	Terre Haute	1899	1900
George W. McCaskey	Fort Wayne	1900	1901
Alembert W. Brayton	Indianapolis	1901	1902
John B. Berteling	South Bend	1902	1903
Jonas Stewart	Anderson	1903	1904
George T. MacCoy	Columbus	1904	1905
George H. Grant	Richmond	1905	1906
George J. Cook	Indianapolis	1906	1907
David C. Peyton	Jeffersonville	1907	1908
George D. Kahlo	French Lick	1908	1909
Thomas C. Kennedy	Shelbyville	1909	1910
Frederic C. Heath	Indianapolis	1910	1911

VICE-PRESIDENTS

Names.	Residences.	Elected	Served
Nathan Johnson	Cambridge City	1849	1849
Townsend Ryan	Anderson	1849	1849
Thomas W. Florer	Alamo	1849	1849
Charles Wallace	Belleville	1849	1849
Asahel Clapp	New Albany	1849	1850
Nathan Johnson	Cambridge City	1849	1850
Livingston Dunlap	Indianapolis	1849	1850
Uriah Farquhar	Logansport	1849	1850
William Lomax	Marion	1850	1851
Robert Curran	Indianapolis	1850	1851
William Davidson	Madison	1850	1851
Willis W. Hitt	Vincennes	1850	1851
Henry M. Dowling	New Albany	1851	1852
Samuel Grimes	Delphi	1851	1852
Joel Pennington	Milton	1851	1852
Charles Parry	Indianapolis	1851	1852
William H. Byford	Evansville	1852	1853
William Davidson	Madison	1852	1853
Vierling Kersey	Milton	1852	1853
Talbott Bullard	Indianapolis	1852	1853
Nathan Johnson	Cambridge City	1853	1854
James S. McClelland	Jefferson	1853	1854
Myron H. Harding	Lawrenceburg	1853	1854
Samuel Reid	Salem	1853	1854
Othniel L. Clark	Lafayette	1854	1855
Pleasant S. Shields	New Albany	1854	1855
Joel Pennington	Milton	1854	1855
John L. Mothershead	Indianapolis	1854	1855
George Sutton	Aurora	1855	1856
George B. Walker	Evansville	1855	1856
Charles Bowman	New Albany	1855	1856
Daniel Meeker	Laporte	1855	1856
John Sloan	New Albany	1856	1857
Willis W. Hitt	Vincennes	1856	1857
Thomas W. Florer	Alamo	1856	1857
John Moffett	Rushville	1856	1857
Thomas J. Cogley	Madison	1857	1858
David Hutchinson	Mooresville	1857	1858
Calvin West	Hagerstown	1857	1858
William R. Winton	Wabash	1857	1858
Thomas K. Austin	New Albany	1858	1859
Benjamin Newland	Bedford	1858	1859
Thomas W. Fry	Crawfordsville	1858	1859
Milton M. Latta	Goshen	1858	1859
John Sloan	New Albany	1859	1860
Robert M. O'Ferrall	Lafayette	1859	1860
James S. McClelland	Jefferson	1859	1860
Richard E. Haughton	Richmond	1859	1860
Jonathan N. Green	Stilesville	1860	1861
Charles Fishback	Shelbyville	1860	1861
Louis Humphrey	South Bend	1860	1861
Isaac Casselberry	Evansville	1860	1861
Calvin West	Hagerstown	1861	1862
Henry Cox	Danville	1861	1862
Alfred H. Robbins	Rochester	1861	1862
John A. Skinner	Vincennes	1861	1862
William R. Winton	Wabash	1862	1863
Horatio G. Sexton	Rushville	1862	1863
Albert G. Preston	Greencastle	1862	1863
John Moffett	Rushville	1862	1863
Albert G. Preston	Greencastle	1863	1864
John Moffet	Rushville	1863	1864
Benjamin Newland	Bedford	1863	1864
Calvin West	Hagerstown	1863	1864
Wilson Lockhart	Danville	1864	1865
Thomas B. Harvey	Indianapolis	1865	1866
James H. Woodburn	Indianapolis	1866	1867
Robert B. Jessup	Vincennes	1867	1868
Robert N. Todd	Indianapolis	1868	1869
Henry P. Ayres	Fort Wayne	1869	1870
Isaac M. Rosenthal	Fort Wayne	1870	1871
James K. Bigelow	Indianapolis	1871	1872
Richard E. Haughton	Richmond	1872	1873
Wilson Hobbs	Knightstown	1873	1874
William B. Lyons	Huntington	1874	1875
Ferdinand W. Beard	Vincennes	1875	1876
Edmund D. Laughlin	Orleans	1876	1877
Noble P. Howard	Greenfield	1877	1878
Benjamin Newland	Bedford	1878	1879
James D. Gatch	Lawrenceburg	1879	1880
John D. Mitchell	Terre Haute	1880	1881
Flavius J. Van Vorhis	Indianapolis	1881	1882
Samuel H. Charlton	Seymour	1882	1883
William H. Schultz	Lebanon	1883	1884
James S. Gregg	Fort Wayne	1884	1885
William J. Hurt	Waynetown	1885	1886
William V. Wiles	Spencer	1886	1887
Calvin W. Burket	Warsaw	1887	1888
Albert G. Porter	Lebanon	1888	1889
Silas T. Yount	Lafayette	1889	1890
Hugh D. Wood	Angola	1890	1891
Ervin Wright	Huntington	1891	1892
Carter H. Smith	Lebanon	1892	1893
Thomas F. Leech	Crawfordsville	1893	1894
Charles S. Bond	Richmond	1894	1895
Edgar L. Larkins	Terre Haute	1895	1896
William F. Batman	Lebanon	1896	1897
Jonas Stewart	Anderson	1897	1898
George F. Keiper	Lafayette	1898	1899
Samuel Kennedy	Shelbyville	1899	1900
Anexamander M. Hayden	Evansville	1900	1901
John B. Berteling	South Bend	1901	1902
William H. Gilbert	Evansville	1902	1903
Charles A. White	Danville	1903	1904
Isaac N. Trent	Muncie	1903	1904
Maurice G. Moore	Vincennes	1903	1904
Homer J. Hall	Franklin	1904	1905
Claude T. Hendershot	Cannelton	1904	1905
David J. Loring	Valparaiso	1904	1905
David W. Stevenson	Richmond	1905	1906
Harry C. Sharp	Jeffersonville	1905	1906
William R. Davidson	Evansville	1905	1906
Jonathan B. Garber	Dunkirk	1906	1907
Charles C. Terry	South Bend	1906	1907
Charles Chittick	Frankfort	1906	1907
William H. Stemm	North Vernon	1907	1908
August F. Knoefel	Linton	1907	1908
George R. Green	Muncie	1907	1908
Edward D. Freeman	Osgood	1908	1909
Charles H. McCully	Logansport	1908	1909
Charles Chittick	Frankfort	1908	1909
Edmund M. Van Buskirk	Fort Wayne	1909	1910
Eugene Hawkins	Greencastle	1909	1910
Theodore Potter	Indianapolis	1909	1910
John N. Hurty	Indianapolis	1910	1911
Andrew S. Dickey	Tipton	1910	1911
James P. Salb	Jasper	1910	1911

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Devoted to the Interests of the Medical Profession of Indiana

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EDITORIALS

PEOPLE DEMAND PURE FOOD

In *Collier's Weekly* for Aug. 26, 1911, appears an article describing how the people of Westfield, Mass., a small town near Springfield, have become educated to the point where druggists, grocerymen and market-keepers find it a useless waste of time and money to attempt to sell anything in the way of food or drugs that is adulterated.

By a mere coincidence the women of this town have come to know not only the common food adulterations but the actual food values of the wares they seek on the market. This unusual degree of pure-food education has come about through the efforts of Prof. L. B. Allyn, head of the chemistry department of the State Normal School that happens to be located in Westfield. In the endeavor to make the study of chemistry interesting to girls, he started in by teaching them how to take the stain out of a white dress and how to make flavoring extracts. When the subject of dyeing cloth was followed by a study of food analysis the course became so popular that it was difficult to keep the pupils out of the laboratory. So great did their interest become that not only was an analysis made of every article served on the table of the school, but special articles from the grocery, drug and candy shops were purchased by the girls and brought to the laboratory. A favorite raspberry jam on analysis proved to be made up of inferior apples, colored with coal-tar dye, and flavored with ether; "cream" tested out to be ordinary milk evaporated to one-half its bulk; "vanilla" contained wood alcohol and "pure whiskey" burnt sugar, prunes and tannic acid, flavored and strengthened by oil of sweet almonds, sulphuric acid and ammonia. "Strawberry jam" proving to be apple stock plus coal-tar dye showed some apparently genuine seeds which, when planted, yielded a beautiful crop of hardy clover. The laboratory took on a gala attire from the highly colored cloths showing the dyes extracted from the toothsome candies formerly so delectable to these same girls. Favorite powders, pills and tonics so uniformly yielded poisons that drugs were banished from the school.

Naturally it took but a very short time for the results of these laboratory analyses to become public throughout Westfield, and ere long druggists, bakers, confectioners and milk dealers began sending in vigorous protests, eventually boycotting Professor Allyn and even refusing to sell goods to the girls of the school. Fully alive to the emergency, Mr. Allyn invited a number of grocers to the school to inspect the work and eight grocers responded. They were much surprised at the flagrant evidences of coal-tar dyeing and food adulteration, as catsup made of stewed pumpkin colored with coal tar and preserved with benzoic acid; "French" peas, beans and spinach colored with copper sulphate; "pure" olive oil of cottonseed, peanut, poppy seed, corn and sesame oils; "pure" coffee containing 20 per cent. chicory; and "pure" tea that was faced with graphite. Puzzled, yet profited, the grocers returned to their shops, one of them rearranging his stock with the approved goods to the front and recommending them to his customers. In twenty-four hours his sales had increased to such an extent that he realized the folly of having fought the normal school. The other grocers quickly followed suit and one even declared that he would handle no goods that had not first been approved by the school. Soon the manufacturers began submitting their samples to such an extent that the laboratory became a busy place indeed and the girls became very expert at detecting adulterations. These they found to be of two kinds; first, the fraudulent, lowering the value of the article but harmless to the health of the consumer, such as chicory in coffee; second, such adulteration as not only lowers the value of the article but also renders it distinctly harmful to the health of the consumer. Indeed one bottle of crême de menthe was found which contained a sufficiently poisonous coal-tar dye to have killed two people who had partaken of but a small portion of its contents.

Bad eggs were found to have had their odor and taste destroyed by formaldehyd and sold to bakers. Likewise rank butter was found to have been steamed, rechurned with some new milk added, colored and preserved and shipped back to the grocer labeled "Fresh Dairy Butter." Canned meats, sausages, jellies, jams, catsups, etc., were frequently found to contain preservatives. In all cases the work was carefully and faithfully done and the results reported back to the grocers who ultimately united in pledging their support to the Normal and in asking aid from the Board of Health. Professor Allyn was

finally made a member of the Board, which placed the work on an official basis.

Not only groceries, but wall-papers, drugs and meats all came under investigation, with decidedly interesting results in some cases. Even the saloon-keepers and liquor dealers sent samples to the board and they ultimately fell in line with the grocers, bakers, butchers and druggists. Even food values are determined by the girls who are likewise disseminating their knowledge throughout the state until samples of goods are being sent in from neighboring towns, as Springfield, Holyoke, Hartford and Northampton, careful analyses and reports of same being made. In nine years Westfield has analyzed 20,000 samples of food and drugs, and Mr. Allyn has carefully kept records of all, so that the normal school to-day is one vast storehouse of useful knowledge which makes it possible for pure food to win when it is the will of the people.

Montclair, N. J., is another city wherein the people have united in a demand for food reform, especially as regards their milk and the result is that so pure is their milk-supply that the average bacterial content of all the dairies of the city is less than 50,000 to the cubic centimeter.

These are only two samples of the possibilities before the people if only they can be awakened to the necessity for honesty and purity in their food-supply.

OUR PRESIDENT

Dr. Frederick C. Heath, the President of the Indiana State Medical Association, scarcely needs an introduction to the medical profession of Indiana. His long service as secretary of the Association he now presides over made him known to medical men from one end of the state to the other, and his genial manner and scholarly attainments have won for him innumerable friends and admirers.

He was born in Gardiner, Maine, Jan. 19, 1857. He graduated at Amherst College in 1878, winning the Hutchins prize for the best examination in the Greek of the Sophomore and Junior years, and he received the M.A. degree from the same institution in 1886. His medical degree was received at Bowdoin in 1884, and he had the distinction of being chosen valedictorian of his class at that institution. After receiving his medical degree he received an appointment as surgeon in the United States Marine-Hospital Service, serving from 1884 to 1890, being stationed successively at Portland (Maine), Chicago, Detroit, Mobile, Buffalo and Cleveland. While stationed in Detroit in 1889 he was honored by being made vice-president of the Detroit Academy of Medicine. In 1890 he took postgraduate work in New York City, and the following year located in Lafayette where he remained until 1892, when he located in Indianapolis, where he has lived ever since, and where he has limited his practice to diseases of the eye.

He was secretary of the Marion County Medical Society in 1894 to 1895 and president of the Indianapolis Medical Society in 1905. In 1896 he was made secretary of the Indiana State Medical Association, a position he held continuously for fourteen years, or until 1910, when he was honored by the presidency of that Association. He has been a member of the American Medical Association since 1891, and has read a number of papers before the Section on Ophthalmology of that Association. He has been eye surgeon to the Indianapolis City Hospital and Dispensary since 1895, as also the oculist to the Deaconess Hospital, German Lutheran Orphan Asylum and the Home for Aged and Friendless Women, all of Indianapolis. He was professor of diseases of the eye in the Central College of Physicians and Surgeons from 1902 to 1904, and since that date has been continuously clinical professor of diseases of the eye in the Indiana University School of Medicine.

He attended European clinics in 1906 and has frequently made sojourns to American cities to take advantage of clinical facilities. He has contributed quite liberally to medical journals and the programs of various medical societies. He is a member of the Indianapolis Literary Club. In politics he is a Democrat, and during the last two political campaigns he has aided his party by making numerous speeches.

HEART FAILURE UNDER ETHER

While medicine and surgery have availed themselves of the advantages of anesthesia countless times, yet there has been a remarkable paucity in the number of scientific, physiologic investigations into the subject. Fixed ideas amounting almost to superstition have occupied a place along with disseminated clinical observations, but the field of experimental study of anesthesia alone has been woefully neglected. For these reasons, and because of some important facts brought out in the study, considerable interest attaches to the paper on heart failure under ether presented by Professor Henderson before the American Surgical Association.[1]

1. Surgery, Gynecology and Obstetrics, August, 1911.

As professor in physiology at the Yale Medical School, Dr. Henderson has made some very valuable observations on anesthesia with dogs and cats and has been able to arrive at some very definite conclusions.

Most deaths under anesthesia come about through either respiratory or cardiac failure, the surgeon blaming the anesthetist for the former and the patient for the latter. The cardiac deaths are ascribed to one or more of three defects, viz., anesthetic hypersusceptibility, heart disease or status lymphaticus. These three expressions, in Henderson's opinion, are mere excuses, and the method of anesthesia is no less to blame than in the respiratory type. Indeed, his investigations have led him to believe that normal human beings could readily succumb to the kind of treatment usually preceding a cardiac form of death. What kills the patient is not what the anesthetist does to the patient at the time of death, or five minutes before, but such early management as permits of light, incomplete and intermittent anesthesia in the beginning resulting in a proneness to sudden death one-half or three-quarters of an hour later.

Apropos of the respiratory type of death, physiology has established the fact that the normal stimulus to the respiratory center is the CO_2 in the blood. This can be readily demonstrated by simply breathing rapidly and deeply for a few seconds, when there will ensue either a temporary cessation or a period of very shallow respiration until such reaccumulation of CO_2 takes place as to stimulate the respiratory center. Prolonged deep and rapid breathing may result in apnea to the period of cyanosis, a condition called by the Greeps acapnia.

Normally, this CO_2 balance is remarkably constant, but varies widely under the various degrees of anesthesia, as was determined by Henderson in an analysis of the gases of the blood of forty-five dogs. During the state of excitement or during intermitent anesthesia, the sensitiveness of the center is greatly increased, excessive breathing and intense acapnia result and the same effect is produced by acute pain. Full anesthesia restores the normal respiratory level and deep anesthesia renders the center much less sensitive than normal. So that the ether subject rendered acutely acapnic by the excessive respiration of intense pain, hysterical emotion or ether excitement may subsequently stop breathing when brought into a very moderate degree of anesthesia. Such conditions of unskilful anesthesia were reproduced experimentally in the laboratory by Henderson, and such acapnia produced as to result in respiratory failure, sometimes fatal, when the dog was so lightly anesthetized as to wink its eyes. In such cases the heart continues for a time to beat with undiminished force, and prompt artificial respiration may result in recovery.

The same physiologic basis for the cardiac type of death holds, as was shown by Henderson in another series of unskilfully anesthetized dogs, wherein the subjects were either allowed to fight during ether excitement, or the hyperpnea of pain produced and a little chloroform then administered. Here the heart frequently failed suddenly, either simultaneously with respiration or before the breathing afforded any sign of impending danger, and the subjects were recoverable only by massage of the heart. Ample experimental evidence is at hand to show that acapnia exerts deleterious effects on the heart and many other functions, the same as on respiration. Ordinarily unexcited dogs take chloroform well, and too much chloroform produces in them respiratory failure before cardiac cessation. But the hypersusceptibility of acapnia exerts its effect primarily on the heart.

That the same phenomena are capable of reproduction by ether has been amply demonstrated on cats in Henderson's laboratory, and the identical process often takes place on the human subject. Henderson declares the problem involves the psychology of the anesthetist. His over-anxiety causes him to allow of the production of acapnia with the resulting deleterious effects on the patient, be it feline or human, and for this reason the deaths or accidents of anesthesia are more common in rural districts or small hospitals than in the larger institutions where the anesthetist is experienced and confident. Such fatalities are rare after profound or prolonged anesthesias but are rather the sequel of light anesthesia. Often the printed accounts state that the administration of ether was interrupted once or twice, or several times, permitting the patient to come nearly out. The eyes may have winked but a few seconds before the circulatory failure, or deep, gasping breaths may have been drawn some time after cardiac cessation. Frequently the case is that of a child for adenoids or a tonsil operation, as is cited by the author, in a case of tonsillectomy in a hysterical woman. Status lymphaticus is often ascribed as the cause of death, even though no autopsy was held. Indeed, the author believes that cases of true status lymphaticus are rare and that many deaths under anesthesia attributed to so-called status lymphaticus should properly be charged to the acapnia of light or interrupted anesthesia.

Carrel likewise noted a hyper-susceptibility to sudden death if a last stitch or other manipulation was made when the animal was coming out of the ether.

The author closes by saying: "Apart from any theory or particular technic, however, this point of supreme importance should be impressed on every anesthetist and every surgeon: In prolonged light anesthesia and excitement, and especially in any intermittent method of administering ether or chloroform, peculiar dangers are involved."

These observations certainly serve to emphasize the necessity for complete relaxation before any operative maneuvers are undertaken, as well as the importance of maintaining a smooth, easy degree of anesthesia throughout the whole of an operation.

EDITORIAL NOTES

Clinics before and after the Indianapolis session. That sounds good.

The time — Thursday and Friday, September 28 and 29.

The Place — Indianapolis.

The Committee on Pathology of the Association is deserving of great praise for the arrangements to give practical pathologic and bacteriologic demonstrations at the Indianapolis session.

The Committee on Arrangements for the Indianapolis session has requested us to urge the members of the Association to bring their wives and sweethearts. Special entertainment has been provided for the visiting ladies by the wives of the Indianapolis physicians.

Medical Defense is now in sight. The plan as proposed by the committee, reported in this number of The Journal, will probably be adopted. It will add one more benefit to the many which accompany membership in the Indiana State Medical Association.

The Indianapolis physicians offer a cordial welcome to all who attend the Indianapolis session. The program is excellent in every particular and the social features will be all that can be desired. Every member of the Association should make an attempt to be present.

The Indianapolis session should be the best in the history of the Association. Medical politics should be tabooed, and the House of Delegates should do its work expeditiously without wrangling over questions of minor import. Let us get down to serious and conscientious scientific work.

President Heath has certainly inaugurated an interesting feature for the Indianapolis session in arranging for a banquet on Thursday night. It will be worth while to hear such speakers as Governor Marshall, Dr. Wiley, Senator Kern, Dr. Welch of Johns Hopkins, Dr. Emerson of the Indiana University School of Medicine, and others of almost equal prominence.

Seldom if ever have the members of our Association been offered such a scientific treat as is in store for them at the annual session to be held in Indianapolis. The program presents a variety of interesting papers by men of recognized ability, and added to the reading and discussion of papers the members are to have the advantage of clinics and numerous bacteriologic and pathologic demonstrations of a practical nature.

The smoker to be given by the Indianapolis Medical Society as a part of the entertainment of visitors to the annual session of the Indiana State Medical Association is going to be a social feature which no member of the Association should miss. It is the one general entertainment where the doctors can all meet together for the renewal of old and forming of new friendships. The smoker will be given at the German House on Wednesday evening.

While the next session of the State Medical Association is scheduled to begin on Thursday, September 28, it should be remembered that all visiting members are expected to be on hand on Wednesday, September 27, for on that day there will be clinics at the hospitals, the meeting of county society officers is held in the afternoon, the House of Delegates meets early in the evening, and later the big smoker is given by the Indianapolis Medical Society.

The reports of the various committees of the State Association are printed in this number. One of the most important reports is that of the Committee on Medical Defense, which should be very carefully read by every member of the Association, and in particular by every member of the House of Delegates who will be called on to vote on the matter of adopting the medical defense feature as proposed by the committee.

Secretary Combs says that registration at Indianapolis must be accompanied by the presentation of membership card or other proof of membership in the Association. He will have the Association membership list with him, giving number of each membership card issued, and also the list of membership by counties as published in this number of The Journal. By reference to these lists it may be determined quickly whether a visitor is entitled to register or not.

For the first time in the history of the Indiana State Medical Association, the program committee, assisted by the local medical profession, has arranged a series of clinics before and after the annual session of the Association. This is in keeping with the spirit of the times, for it is generally recognized that practical clinical medicine is a feature which cannot be overlooked in asking physicians to attend a scientific session which should be a form of postgraduate work on a small scale.

In this number we publish a complete list of the membership of the Indiana State Medical Association by counties. The list includes all those who have paid dues to the State Association and reported to us by the secretary on September 1. In previous numbers of The Journal we have published a list of members according to numbers of membership cards, but we believe that the list by counties will prove interesting to the members, and particularly valuable to officers of societies who have occasion to refer to such a list.

In this number we are republishing the list of Presidents and Vice-Presidents of the Indiana State Medical Association since its organization. Last year we published such a list, and Dr. Kemper, the historian of the Association, advised us that the list was not absolutely correct, in that we made some errors in initials and addresses. We found, however, that the errors had been copied from the old bound Transactions of the Association, and we were not responsible for mistakes occurring in copy we supposed to be correct. However, Dr. Kemper has taken the trouble to prepare a list which he says is absolutely correct, and we are reproducing the same in this number.

Added to the University of Wisconsin's curriculum is a course in resting, for young women co-eds of nervous and "fidgety" temperaments, it is announced by the *University Bulletin*. It is the attitude of the department of physical training, asserts the *Bulletin*, that hundreds of young women of the over-nervous type do not know how to conserve their energy and by nervous gestures, grimaces and in hundreds of ways, cause a serious drain on the nervous system. The "resting classes" will be taught many manners of conservation of the nerves which, in the view of university experts, will prevent the many ills heir to an overtaxed nervous system.—Associated Press item.

The medical profession of Indianapolis will be called on to entertain two medical societies during the last week in September, for aside from the annual session of the Indiana State Medical Association, which is to be held on Thursday and Friday, September 28 and 29, the American Academy of Ophthalmology and Oto-Laryngology holds its annual session in Indianapolis on Monday, Tuesday and Wednesday, September 25, 26 and 27. No better place could be chosen for the eye, ear, nose and throat specialists to meet, as Indianapolis is a convention city and amply able to care for all ordinary conventions. The Indianapolis profession can and will take care of the visitors.

The Medical History of Indiana, a book recently edited and published by Dr. G. W. H. Kemper of Muncie, is receiving favorable comment on every hand. The book has been prepared at great labor and expense, and is of interest to every physician in the state who is interested in Indiana's medical progress. The book has been prepared by Dr. Kemper as a work of love, but we hope that such expense as he has been put to in the publication of the book will be returned to him through subscriptions and that he will receive expressions of appreciation from those who are interested in his work. The book is bound in cloth and is sold at the nominal price of $2.50 per volume. Subscriptions may be sent direct to the author.

Among our news notes will be found an item concerning the efforts of a Fort Wayne hardware merchant to help on the crusade against flies. He offers substantial prizes for boys who will kill the most flies between now and September 10.

It is certainly advisable to spread the gospel concerning the spread of disease by means of the ordinary house fly, and the slogan "Swat the Fly" should be followed by every one. In some communities bounties are paid for the destruction of wolves, foxes, and even sparrows. Perhaps some time in the future there will be a bounty for the destruction of flies, but if the public is sufficiently educated concerning the dangers of the ordinary house fly it should not be necessary to offer an inducement to stimulate people of all classes to make an endeavor to suppress the fly.

From Indianapolis comes the news that the campaign has been started by the State Board of Health to compel every health officer in the state to see that every well in his locality is absolutely safe from the standpoint of health. If it is impossible to be sure that the water is pure arrangements have been made for tests to be made in the state laboratories. Of the samples of drinking waters from various places that have reached the health department, at least 50 per cent. of those from shallow wells have been found to be impure. A few of the samples were taken from local waterworks and several of those likewise have been found to be disease-infected. H. C. Barnard, State Food and Drug Commissioner, has sounded a warning against persons waiting until some member of the family is afflicted with typhoid fever before sending samples of drinking water to be analyzed. It is the opinion of the Board of Health that every well in the state should be examined and the water analyzed before it is drunk.

Dr. Charles N. Combs, Secretary of the State Association, presents the following announcement, which should be carefully noted:

The following amendment to the constitution of the Indiana State Medical Association has been presented in open meeting at the annual session, and has been published twice in The Journal of the Indiana State Medical Association during the year, and will come up for final vote at the Indianapolis session.

"The officers of this Association, except councilors, shall be elected by the House of Delegates on the morning of the last day of the annual session, but no delegate nor councilor shall be eligible to any office named in the preceding section, except that of councilor, and no person shall be elected to any such office who is not in attendance at the annual session, and who has not been a member of the Association for the past two years. The councilors shall be elected by the respective district societies, providing that if any district shall exist without a society the councilor for such a district shall be elected by the House of Delegates."

In adopting Medical Defense as one of the benefits obtained through membership in the Indiana State Medical Association, it will be well for the House of Delegates to carefully consider the regulations under which medical defense is provided. It should be remembered that the dues, which include the medical defense assessment, are payable on January 1 of each year and become delinquent on February 1. Medical defense should therefore begin with every member after he has paid his annual dues, and apply to such suits only as cover services rendered after the payment of dues. Medical defense should not be operative one minute after the member becomes delinquent, and while the whole matter of carrying out the medical defense feature should be left to a competent committee, the House of Delegates should prescribe definite rules of procedure not only with a view to relieving the committee of embarrassment but also for the purpose of avoiding arbitrary action on the part of a committee which might lead to complications. It is presumed that the plans of operation as pursued by other states have been carefully investigated and that our Committee on Medical Defense will be able to offer a plan for adoption in this state which will afford our members all of the advantages contained in the plans of other states but without any of the objectionable features.

Dr. Charles N. Combs, Secretary of the State Association, wishes to call attention to the following announcements:

To facilitate the transaction of business at the first meeting of the House of Delegates, Wednesday, 8 p. m., in order that the delegates may get through in time to attend the smoker to be given by the Indianapolis Society, it is requested that the delegates assemble at 7 p. m. Although no official action can be taken prior to 8 o'clock an informal discussion will be held concerning the business to be acted on, which will save much time.

A member who does not instruct his delegate how to vote and does not see that his delegate

attends the meetings supplied with credentials has no right to complain about the way the Association is run, as by that means representation is provided for.

This year Chap. I, Sec. 3 of the By-Laws will be followed literally, and registration will be by membership card. If you fail to bring your card you will be required to wait at another desk and the Secretary's records will be consulted before your badge will be issued. On payment of the State Association dues eligible non-members will be allowed to register and, as soon after that as their county societies vote them into membership, they will be issued the regular membership card.

Wood alcohol has added seven Indiana victims to the list of those who have suffered from the poisonous effects of either drinking or inhaling the fumes of that dangerous spirit. The daily newspapers report that at Whitetown several men drank an alcoholic concoction which proved to be made mostly of wood alcohol, and that in consequence four of the men are dead, one is totally blind and two others are partially blind. The concoction was purchased as a beverage, and an investigation is under way to discover who is guilty of selling the poisonous compound.

Within recent years, or following the comprehensive reports of Wood, Buller and others concerning the dangers of drinking or inhaling the fumes of wood alcohol, most states have passed stringent laws governing the sale and use of wood alcohol. Druggists and others who sell it are required to place on the container a label indicating that the contents are poisonous, and workmen who use wood alcohol in the arts or trades are particularly cautioned about breathing the fumes for any considerable length of time or in any way absorbing the alcohol inasmuch as experience has shown that at times a small quantity of wood alcohol taken internally may produce death, and usually produces complete or partial blindness. The fact that wood alcohol was used in making up a beverage sold to some of the residents of Whitetown is sufficient to warrant a thorough investigation and prosecution of those guilty of the crime.

The coming session of the Indiana State Medical Association, to be held in Indianapolis the last week in September, ought to be the most successful session ever held. Indianapolis is in the center of the state, easily reached by numerous railroads and interurbans, and as the metropolis of Indiana it is the ideal convention town. In no place in the state can the Indiana State Medical Association be better cared for in every way, and as the local medical profession has been making great preparations for the coming session, we have every reason to believe that the members of the Association are promised an exceedingly interesting and profitable session. The German House, where everything pertaining to the session will be housed, is peculiarly adapted to the wants of any convention. Here members will find the general meetings, the meetings of the sections, commercial exhibits and rooms for social purposes. The local committee on arrangements has provided an abundance of entertainment, and the scientific committee has prepared a program of unusual excellence, not the least important feature of which is the clinics and demonstrations at hospitals. The banquet, given at the suggestion of President Heath, will be a notable innovation, and it will be unlike most of the dry and uninteresting banquets with which many are familiar. In this instance there will be no hit and miss postprandial program but a few short addresses by able speakers of national reputation. Among these will be Governor Marshall of Indiana, Dr. Welch of Johns Hopkins University, Senator Kern and others of equal prominence. This feature alone is sufficient to draw a large attendance from the membership of the Association, but it is expected that the scientific program will be equally as effectual in encouraging the members to attend the Indianapolis session.

The typhoid season is here and physicians are now reaping the harvest that comes from caring for people who have taken their vacations in the country or at the numerous lakes where the busy fly and the polluted shallow well have done their work in disseminating typhoid germs. The strangest feature of this yearly typhoid proposition is that the people in the localities where typhoid prevails usually become indignant when told that their water-supply or sanitation is responsible for the spread of typhoid infection. Instead of trying to clean up and to secure a more healthful water-supply they become abusive of health officers and others who charge them with criminal neglect. Nothing short of legal prosecution will bring such people to a realization of the duty owed to public health.

We believe that every resort in Indiana should be repeatedly inspected by the local county health officer who should be armed with instructions from the State Board of Health as to just what should be considered unsanitary conditions. The drinking water-supply should be carefully

inspected and samples of water analyzed at various times throughout the season. Any well which is so situated as to make it easily possible of contamination should be condemned and closed. Violators of sanitary regulations should be prosecuted and in the interest of those who visit summer resorts the inspection and the enforcement of regulations should be most rigid. In the country districts the county health officer should be instructed to investigate the condition of water-supply for schools, churches and other public buildings, and in particular to investigate the source of water-supply for families suffering from typhoid. Through a rigid investigation of this sort it will be possible to very materially limit the number of typhoid cases in the state. Incidentally, some means should be provided for paying the county health officer an adequate salary for doing this work.

One of the mysteries of modern American life is hay fever. On or within a day or two of August 15 of each year many thousands of Americans suddenly begin sneezing and suffering from the effects of obstructed nasal breathing, watering of the eyes and nose, headache, asthmatic symptoms and a train of other disagreeable manifestations commonly known as hay fever. Collectively the hay-fever sufferers begin their sneezing on August 15, but individually the disease appears at a certain day each year and often at precisely a certain hour. It continues until the first sharp frost and then as suddenly disappears as it came. That the disease is distinctively American is evidenced by the fact that it is less seen outside of America, and even in America it numbers its victims chiefly among the native born. The disease is also a modern form of misery, and is jestingly said by some to be a torture and inconvenience accompanying the development of our advanced civilization, for a hundred years ago the disease was unknown. To-day the victims are said to number hundreds of thousands, and they have organized themselves into a society known as the United States Hay Fever Association. In the ranks of this Association may be found men (few women) from all the higher vocations of life. Seldom is the lower class represented, and this has led to the frequently repeated statement that the poor never have hay fever because they can't afford it.

Volumes have been written concerning the etiology, pathology and treatment of hay fever, but when all is told we know no more about hay fever now than we did forty years ago. Numerous theories as to the etiology of the disease have been advanced, but not one of the theories has withstood the test of time, and now we are forced to admit that we do not know what causes the disease. The pollen theory seems to hold good in some cases, and yet some of the worst sufferers go from localities where there is no discoverable pollen to a locality where there is an overabundance of pollen and the hay-fever symptoms promptly subside. Those who live in Indiana may go to Michigan and be cured and those in Michigan may come to Indiana and obtain relief. Those living in the lowlands may be cured by going to a higher elevation, and vice versa. The man on the seashore gets relief by going to the interior, and the man from the interior gets relief by going to the seashore. It is even said that some men have hay fever if they sleep in the front of the house but are comparatively free of the disease if sleeping in the rear of the same house. In fact it would seem that change is the only thing which brings relief, and every case is a law unto itself in so far as the kind of change required to bring relief is concerned. Northern Michigan and particularly Mackinac Island has long been a haven of refuge for thousands of hay-fever sufferers and yet the natives of Mackinac Island who are eligible to membership in the hay-fever association have no trouble in acquiring the disease right on Mackinac Island and are obliged to follow the habits of the hay-fever sufferers by seeking a change.

It has been said by some writers that hay fever occurs only in those of nervous temperament, and yet the association of hay-fever victims has shown that the disease often affects persons as phlegmatic as a wooden Indian. Finally the edict has gone forth that the disease is a neurosis incited by multitudinous and varying causes. But notwithstanding this learned (?) opinion as to the etiology, it is known that medical skill is no more effective now than it ever was, which in reality is saying that we have found nothing to cure the disease. All of the snuffs, sprays, inhalations or local treatment of any kind have been found feebly palliative at best, and internal medication is but a waste of time and good medicine. The serums and toxins, of which so much was expected, have failed to make good, and the hay-fever victim has been obliged to fall back on the more or less pleasant alternative of a change of location and usually a change of climate. Change is the one thing which brings relief, and it requires a good deal of courage, much suffering and inconvenience, and usually a depleted pocketbook to keep a real "dyed in the wool" hay-fever victim away from the region where he knows he will be free from the discomforts of the great

American scourge. This is not without its advantages, though as a steady diet year after year it often becomes tiresome.

Finally, when all is said, the fact remains that hay fever is a mystery and medical men will find it worthy of very thorough study and investigation. Surely the victims of hay fever will welcome a cure for the disease, no matter what the cure may be, and the reward is sufficiently tempting to warrant our best efforts.

DEATHS

Dr. Porter Turner, aged 59, died at his home in Elkhart, August 15. He was mayor of Elkhart from 1898 to 1902.

Emil Hinkle, aged 15, son of Dr. J. S. Hinkle of Bicknell, was drowned, August 16, while swimming in the White River.

Dr. Alfred Z. Caple, a graduate of the Indiana Medical College, Indianapolis, in 1873, died at his home in Argos, Ind., June 5, aged 63.

Dr. John R. Mauk, aged 79, died at his home in Cambridge City, August 29. He was formerly a member of the legislature, and had practiced medicine in Cambridge City for fifty-four years.

Dr. Samuel P. Mitchell, a graduate of the College of Physicians and Surgeons, Keokuk, Iowa, 1875, died at his home in Mt. Etna, Ind., July 28, from the effects of an overdose of medicine, aged 64.

Dr. Leslie McClain, aged 62, died at his home in Terre Haute, August 19. Dr. McClain graduated from the Ohio Medical College in 1875. He was a member of the Vigo County Medical Society.

Dr. Lewis P. Engelman of Lafayette was found dead at his office, August 7. The gas lights were all lighted in his room and the instantaneous water heater was in operation. The heat in the room was intense and had blistered his body terribly. He evidently had been dead for two or three days. The fumes of gas were overpowering and it is possible he was suffocated. Dr. Engelman was 40 years old.

Dr. G. W. Fertich died at his home in Dunkirk, August 3, from cerebral hemorrhage, aged 69 years. Dr. Fertich was for twenty years surgeon for the Pennsylvania lines on the division between Logansport and Bradford.

Dr. T. A. Borton died at his home in Plymouth August 25 following an illness of three weeks from an acute stomach disorder, aged 79 years. He was born in Starke County, Ohio, Dec. 16, 1831, and graduated from Starling Medical College in 1856. At the time of his death he was president of the Plymouth Sanitarium and Hospital. He had practiced medicine in Plymouth for over fifty years.

Dr. George L. Andrew died at his home in Laporte, July 19, after a short illness, aged 89. Dr. Andrew was born in Hamilton, Ohio, July 18, 1822. He graduated from Miami University, Oxford, Ohio, in 1841 with the degree of A.B. Later Dr. Andrew secured the degree of Master of Arts. He graduated from the Medical College of Ohio, at Cincinnati, in 1845. During the Civil War Dr. Andrew served the sanitary commission for four years, first as chief inspector of the Army of the Potomac and later as chief of the Army of the Cumberland. He led relief work at Antietam and at Fredericksburg. He founded a system of relief hospitals and edited the *Sanitary Reporter*. Dr. Andrew's death marks the passing of the last official connected with the sanitary commission, which commission was the forerunner of the Red Cross movement. A memoir of those years was recently written by Dr. Andrew and will probably be published now that its author is gone.

NEWS, NOTES AND COMMENTS

Dr. Ephraim M. Folson, Evansville, sailed for Europe, July 19.

Desirable practice offered for sale at a bargain. See advertising pages.

Dr. Lewis Maxwell, Indianapolis, has returned after a year abroad.

Dr. Fred E. Jackson, intern at the City Dispensary, Indianapolis, has resigned.

Young physician wants position as assistant. For particulars see advertising pages.

Dr. Robert A. Bunch, Muncie, who has been seriously ill, is reported to be convalescent.

Dr. O. G. Pfaff, Indianapolis, who has been seriously ill with septicemia, has recovered.

Dr. F. W. Hixon has been commissioned first lieutenant, medical corps, Indiana National Guard.

Drs. S. L. Carson of Lincoln City and W. H. Williams of Dale have recently moved to Vincennes.

A twenty-plate static machine and *x*-ray appurtenances for sale at a bargain. See advertising pages.

The residence on the farm (near Noblesville) of Dr. Simon P. Scherer, Indianapolis, was burned August 10.

Dr. Joseph E. Showalter, Waterloo, has been appointed a member and secretary of the Waterloo school board.

Dr. Jonas Stewart, Anderson, was thrown from his buggy in a runaway accident, August 4, and painfully injured.

Dr. Theodore Potter of Indianapolis spent his vacation in the beautiful lake region of the highlands of Ontario, Can.

Dr. F. W. Grayston of Huntington was operated for gall-stones at Rochester, Minn., early in August. He is recovering rapidly.

Dr. Jacob R. Etter, Crawfordsville, has been designated as surgeon general of the Uniform Rank of Odd Fellows of the World.

Dr. G. S. Hobbs, intern at the Methodist Episcopal Hospital, Indianapolis, has completed his term of service and commenced practice in that city.

A reunion of the members of the Class of 1904, M. C. L., will be held in the College Library, Indianapolis, at 4:30 p. m., on September 28, 1911.

The Lutheran Hospital Association, Fort Wayne, has purchased adjoining property, the buildings on which, after remodeling, will be used for a maternity.

Founders' Day was observed at Dr. Fletcher's Sanatorium Aug. 18, 1911, in commemoration of the life and work of Dr. William B. Fletcher. Dr. Fletcher was born Aug. 18, 1837, and died April 25, 1907.

At a mass meeting of the citizens of Gary, August 7, $20,000 was raised for the assistance of Mercy Hospital in that city. This amount is needed to complete the new hospital building which will have cost when completed $100,000.

Eye, ear, nose and throat clinics will be held at the City Hospital on Wednesday morning, September 27, during the session of the Academy of Ophthalmology and Oto-Laryngology. All members of the medical profession are invited to attend these clinics.

Dr. Harry H. Smith, Jeffersonville, has resigned as physician to the Indiana State Reformatory to accept the position of chief surgeon for the American Rolling Mill Company at Middletown, Ohio, and will be succeeded by Dr. Halsted S. Murat.

Dr. G. W. McCaskey of Fort Wayne will read a paper by special invitation before the Michigan State Medical Society at its annual session held in Detroit, September 28, on the subject "Diagnosis of Heart Disease." The paper will be a part of a symposium on heart disease.

Dr. A. R. Schier of Burlington, Iowa, has been appointed first assistant physician at the Southern Indiana Hospital for the Insane by Superintendent C. A. Laughlin. He takes the place of Dr. John Glover, who resigned several months ago to take up general practice.

Since July 1 the following articles have been accepted by the Council on Pharmacy and Chem-

istry of the A. M. A. for New and Non-Official Remedies: Acidol (Farbenfabriken of Elberfeld Co.); acidol pepsin (Farbenfabriken of Elberfeld Co.); hormonal intramuscular (Schering & Glatz); hormonal intravenous (Schering & Glatz); supracapsulin ointment (Cudahy Packing Co.)

During the meeting of the State Medical Association demonstrations of the work of the State Laboratory will be held at convenient hours, in Room 122 on the third floor of the State House. Physicians are urged to visit the laboratory and see for themselves how the work is done. We shall be glad to have doctors bring their specimens with them and watch the process of their examination.

Dr. E. G. Kyte and Miss Cora Elizabeth Simms were married by the Rt. Rev. Joseph Chartrand, in Indianapolis, August 26th. Mrs. Kyte is the daughter of Mr. and Mrs. W. A. Simms, Shelbyville, Ind. Dr. Kyte will remove to Indianapolis, locating on Ray and Division Streets, West Indianapolis, leaving his position as house physician in the Home Lawn Sanitarium to be filled by Dr. R. H. Egbert of Elizabethtown, Ind.

Dr. H. R. Alburger announces the plans for the pathologic exhibits in connection with the annual session of the Indiana State Medical Association. The pathologic demonstrations will be a feature and are arranged in conjunction with the clinical papers by members of the committee. There will be a demonstration at the Indianapolis City Hospital on the afternoon of September 28 when the method of making the Wassermann reaction will be illustrated, and if possible an autopsy will be performed before the visiting physicians.

At the coming Indianapolis session Dr. Jewett V. Reed will give an illustration of "Tuberculosis of the kidney; pictures of ureteral catheterization; guinea-pig inoculation and gross specimens of tuberculous kidney." Dr. Thrasher will demonstrate the Wassermann method of obtaining blood from the rabbit and pig, showing the spirochetæ, the finished reaction, and all that pertains to the entire process. Dr. Simonds will exhibit and explain some of the difficulties with which the Board has to contend in specimens sent them for examination, and show how much better it would be if physicians only understood the necessity of much care in preparing their specimens.

During the month of August 1,199 specimens were examined at the Bacteriological Laboratory of the State Board of Health. Of twenty-seven brains examined for evidence of rabies, twelve were positive (eleven dogs and one horse). Of 114 cultures from the throats of children in an Orphans' Home in Mishawaka, twenty-four contained diphtheria bacilli. The number of positive sputa this month reached almost 40 per cent. of the total number. No specimen is pronounced positive unless at least six tubercle bacilli are found. The organs of a steer thought to have died of anthrax were found to contain *Piroplasma bigeminum*, the organism of Texas cattle fever.

A Fort Wayne hardware merchant, having become greatly interested in the fly evil which is being battled against by the American Civic Association, has struck on a novel idea for killing off the pests in Fort Wayne. He offers a nice array of prizes for the boys who kill the most flies. The insects are to be brought to the store and weighed and the contestants will be credited with their individual catches. The prizes offered are: 1st, a 22 Savage repeating rifle; 2d, a Big Four express wagon; 3d, an all steel express wagon; 4th, a pair of roller skates; 5th, a pocket knife. No fees of any nature are connected with the contest and all that is necessary for participation in the fun and a chance at the prizes is to bring in the flies and leave the name and address. The prizes are awarded to the boys who bring in the most flies by September 10 before 6 o'clock in the evening.

From the beginning of the epidemic of rabies in December, 1906, to the end of August, 1911, the heads of 600 animals have been examined at the State Laboratory. Of these 314, or 52.3 per cent., were proved to have rabies. It is impossible to estimate with any degree of accuracy the number of persons and animals bitten during this time. From Jan. 1, 1911, to Aug. 31, 1911, 171 heads have been examined, seventy-four of which, or 43.2 per cent., were found to show positive evidence of rabies. One of these was the brain of an 8-year-old boy. In addition to these, eight positive cases have been found at the Purdue laboratories, all from Tippecanoe County. At present the worst infected counties are Delaware, Jennings, Bartholomew, Jasper and St. Joseph. Positive cases have also occurred during the last month in Vigo, Sullivan, Hendricks, Switzerland, Clinton and Dearborn Counties. The rabies situation has again become very serious in spite of the efforts of the health officers.

Much unnecessary difficulty is experienced at the laboratory because dogs are so often killed immediately after biting their victims, and because the heads are sent without being placed in ice. If a dog not definitely ill bites a person, it should not be killed at once, but shut up and watched. If the animal remains healthy for ten days, it is proved free from the disease by a better test than a microscopic examination can furnish.

Judging from the report of Dr. Barnard on the work of the state laboratories for the month of July, some of the food manufacturers and dairies in various parts of the state are not selling pure food, and the department is attempting to correct the evil. Out of 162 samples of food analyzed 25 per cent. were found to be illegal. Thirty-three out of ninety-six samples of milk were illegal. Some of the samples of milk contained visible dirt and many of the samples showed such a high percentage of adulteration as to indicate the necessity for active and energetic work on the part of the local inspectors. Eleven of twenty-five drug samples analyzed were illegal. All of the samples of peroxid of hydrogen examined were below the standard. During the month the inspectors and the Board of Health inspected 362 grocery stores in the state and rated 226 as good, 116 fair, ten poor and two bad. While meat markets were not as satisfactory as the groceries the result of the month's work showed a decided improvement. Drug stores also were in good shape, as none were reported in poor condition. On the other hand, no bakeries were in a condition to be classed as excellent. Of ninety hotels and restaurants visited, fifty-one were fair only, twenty-seven were rated as good, ten poor and two bad. The unsanitary condition of poultry houses is improving, though they are still far from satisfactory.

During the month thirty-one prosecutions were brought for violations of the food, drug and sanitary laws, and in every case a conviction was obtained. The total fines and costs amounted to $643.60. Ten cases were brought because of the sale of bad eggs. In twelve cases milk dealers were fined for selling dirty milk. One milk man was fined for selling skimmed and watered milk. Two ice-cream manufacturers were convicted for selling ice-cream which was artificially colored. Four proprietors of meat markets, slaughter houses and groceries were prosecuted for maintaining unsanitary conditions. One dealer was convicted for selling cider containing benzoate of soda.

The American Academy of Ophthalmology and Oto-Laryngology will hold its sixteenth annual session in Indianapolis on Monday, Tuesday and Wednesday, September 25, 26 and 27. The president of the Academy is Dr. John J. Kyle, of Indianapolis. Dr. Thomas C. Hood, Indianapolis, is chairman of the Committee on Arrangements, and Dr. Lafayette Page, Indianapolis, is chairman of the Committee on Entertainments. The preliminary program is as follows:

ADDRESSES

The Problem of Otosclerosis and Allied Conditions, Dr. Albert Gray, Glasgow.

President's Address, John J. Kyle, Indianapolis.

Vice-President's Address, Dr. F. Park Lewis, Buffalo, N. Y.

PAPERS

Ocular Leprosy, Dr. F. M. Fernandez, Havana, Cuba.

The Use of Radium in Ophthalmology, Dr. G. Sterling Ryerson, Toronto, Canada.

Concerning Uveitis (and Descemitis in Particular) and Its Probable Relation to Latent Nasal Obstructions, Dr. Wendell Reber, Philadelphia.

Tumors of the Hypophysis and Their Relation to Acromegaly and Froelich's Syndrome, Dr. Dean D. Lewis, Chicago.

Ophthalmia and Trachoma in the Mountains of Kentucky, Dr. J. A. Stucky, Lexington, Ky.

On Cataract Extraction with Corneal Suture, Dr. E. C. Ellett, Memphis, Tenn.

The Normal Lens as Figured in the Text-Books and as Seen in the Eye, Dr. Lucien Howe, Buffalo, N. Y.

Some Surgical Experience in Wills Eye Hospital, Dr. Samuel D. Risley, Philadelphia.

Ehrlich-Hata "606" in Ophthalmology, Dr. B. C. Corbus, Chicago.

An Accurate and Rapid Method of Refraction, Dr. Frank Carroll, Cedar Rapids, Iowa.

Thrombosis of the Cavernous Sinus, with Report of Case, Dr. H. H. Martin, Savannah, Ga.

Neoplasms of the Larynx, Dr. Lafayette Page, Indianapolis.

Acute and Chronic Labyrinthitis, with Special Reference to the Treatment, Dr. William L. Ballenger, Chicago.

Streptococcic Infections of the Throat, Dr. Richard McKinney, Memphis, Tenn.

Iodin as a Therapeutic Agent in Hay Fever, Asthma and Atrophic Rhinitis — Seven Years' Experience, Dr. Clarence W. Warfield, San Antonio, Tex.

Ear Diseases Due to the *Bacillus mucosis*, Dr. W. T. Moore, Huntington, W. Va.

The Corrections of the Nasal Deformities by Mechanic Means and the Transplantation of Bone, Dr. W. W. Carter, New York City.

The Histology and the Nasal Treatment of Acute and Subacute Suppuration of the Sinuses, Dr. C. M. Miller, Richmond, Va.

Accidents in the Treatment of the Eustachian Tube, Dr. W. E. Murphy, Cincinnati.

The Topography of the Labyrinth with Lantern Slides, Dr. M. A. Goldstein, St. Louis.

Submucous Septal Operation — 160 Cases by Author's Special Instruments, Dr. Myron Metzenbaum, Cleveland, Ohio.

Result in 100 Cases of Sinus Thrombosis, Dr. F. Phinizy Calhoun, Atlanta, Ga.

Some Complicating and Terminal Lesions of Mastoiditis, Dr. John McCoy, New York City.

Visual Requirements of Enginemen — Some Results of the Agitation, Dr. Harry Young, Burlington, Iowa.

Some Surgical Means in the Management of Trachoma, Dr. Thomas Faith, Chicago.

Cerebellar Tumor and Complete Optic Atrophy; Presentation of the Specimen, Dr. John O. McReynolds, Dallas, Texas.

Sodium Citrate in Glaucoma, Dr. Martin H. Fischer, Cincinnati.

Prognosis and Treatment of Tuberculosis of the Larynx, Dr. Wolff Freudenthal, New York City.

The Lymphatics of the Nose and the Naso-Pharynx, Dr. Henry Hartz, Detroit, Mich.

Anomalies of the Mastoid Process, Dr. Henry B. Hitz, Milwaukee, Wis.

The After-Treatment of Radical Mastoid Operation with Special Reference to the Subject of Packing, Dr. Wendell Phillips, New York City.

The Treatment of Cicatricial Laryngeal Stenosis, Dr. Emil Mayer, New York City.

The Principles of Operative Treatment in Laryngeal Tuberculosis, Dr. Lorenzo B. Lockard, Denver.

SOCIETY PROCEEDINGS

INDIANA STATE MEDICAL ASSOCIATION

The following is a list of those who have paid Association dues between the dates Aug. 1 and Sept. 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the August number includes all those who paid dues to August 1, or up to 2320, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the September number constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address.	County Society.
2321	H. Ostroff, Indianapolis	Marion
2322	C. W. Marxer, Indianapolis	Marion
2323	J. E. Hughes, Indianapolis	Marion
2324	W. H. Williams, Vincennes	Spencer
2325	J. V. Reed, Indianapolis	Marion
2326	A. J. Schneider, Indianapolis	Marion
2327	D. R. Ivey, Royal Center	Cass
2328	R. L. Dooley, Montezuma	Parke
2329	H. E. Washburn, Clinton	Parke
2330	Calvin Weidner, Hartford, Conn.	Steuben
2331	John V. Kerrigan, Mich. City	LaPorte
2332	Paul Bowers, Michigan City	LaPorte
2333	Nellie Cole, Michigan City	LaPorte
2334	Ernest Franz, Berne	Adams
2335	S. M. Rice, Terre Haute	Vigo
2336	W. W. Merrill, Rensselaer	Jasper
2337	I. M. Washburn, Rensselaer	Jasper
2338	E. C. English, Rensselaer	Jasper
2339	A. R. Kessler, Rensselaer	Jasper
2340	F. H. Hemphill, Rensselaer	Jasper
2341	M. D. Gwin, Rensselaer	Jasper
2342	L. N. Wells, Demotte	Jasper

HUNTINGTON COUNTY

The Huntington County Medical Society met August 9. Dr. E. T. Dippel read a very able paper on the subject "Urinalysis, Significance and Value of Its Findings." Dr. Dippel emphasized the fact that a careful and complete urinalysis oftentimes is a great aid in making a correct diagnosis. The paper gave a comprehensive review of the urinary findings in different diseases.

Dr. M. H. Krebs opened the discussion by stating that the estimation of the chlorids gives a basis for differential diagnosis of pneumonia, as well as its prognosis.

Dr. S. V. Wilking, Roanoke, mentioned the urinary findings in puerperal eclampsia, stating that the quantity of acetone gives a basis for prognosis.

In the discussion of general topics, Dr. M. H. Krebs stated that he had seen twelve cases of optic neuritis following complete or partial removal of the ovaries. Dr. C. L. Wright stated that he had noted that women suffering from ovarian disease invariably wore glasses. No explanation of the cause was offered.

Adjourned. R. Q. Taviner, Secretary.

SPENCER COUNTY

The Spencer County Medical Society met in regular session with Dr. J. C. Glackman, of Hatfield. Minutes of previous meeting read and approved. Nine members of society present.

"Puerperal Conditions" was discussed by Dr. J. C. Jolly, who reported a case beginning March 22 by rupture of sac. Two days later labor developed and patient delivered by instruments. Fever in the evening; subnormal temperature next morning; chill the following evening. Called counsel and curetted. Patient had chill every third day until April 10. Profuse per-

spiration, respiration quick, high fever, very little tenderness; diphtheritic growth in vagina. Treatment, hydrogen-peroxid swab twice daily, douches of sterile water, strychnin, quinin. Dr. J. C. Glackman reported a case of similar character. Both recovered.

Dr. DeTar discussed "Gastric Ulcer," saying that the usual seat of trouble was at the lower and lesser end of the stomach. Dr. Baker advised a test meal. Prognosis good unless perforation exists. Treatment consists in restriction of diet, administration of nux vomica, Fowler's solution, silver nitrate and bismuth.

The next meeting of the society will be held with Dr. S. P. Gwaltney, of Midway, the third Tuesday in September.

Adjourned. H. Q. White, Secretary.

KOSCIUSKO COUNTY

The regular meeting of the Kosciusko County Medical Society was held August 29. Reports of cases were made by Drs. C. C. Dubois and A. C. McDonald, Warsaw, and Dr. Dubois read a paper on the subject "Diseases of the Thyroid." On motion this paper was referred to The Journal for publication.

President Yocum gave a talk on "Some of the 'Pathies' In and Out of Medicine." A circular was read describing Dr. G. W. H. Kemper's book on The Medical History of Indiana.

Dr. J. H. Bowser, Syracuse, told of the local arrangements being made at Wawasee for the accommodation and amusement of those attending the 13th District meeting on Tuesday, September 5.

Adjourned. C. Norman Howard, Secretary.

BOOK REVIEWS

Spirochetes. By W. Cecil Bosanquet, M.D., Fellow of the Royal College of Physicians, London. Octavo of 152 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1911. Artistically bound. $2.50 net.

The attention which has been given to the various spirochetes since the discovery by Schaudinn in 1905 of the *Spirochæta pallida* of syphilis, has naturally led to the study of other species of spirochetes.

The literature on the subject has been very scant and scattered through many articles. The author of this neat little volume has collected and classified all of the various known spiral organisms including their morphology, pathogenesis, classification, staining methods, etc., making a complete and authoritative monograph on the subject of spirochetes. He takes up the problem of their position in the scale of living things, giving his own observations as well as the observations of others and is inclined to classify spirochetes as of bacterial origin rather than parasitic. In this connection he takes up their association with other organisms and mentions the constant association of spirochete and *Bacillus fusiformis* in Vincent's angina as an example of symbiosis or as suggesting the possibility that the spirochetes are simply a stage of the development of the bacillus. He not only takes up the spiral organisms in the human subject, but classifies all known spirochetes in man and animals.

This work is a valuable addition to the library of anyone interested in bacteriology or parasitology.

The Anatomic Histological Processes of Bright's Disease. By Horst Oertel, M.D., Director of the Russell Sage Institute of Pathology, New York. Octavo of 227 pages, with 44 illustrations and 6 lithographic plates. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net.

This most interesting series of lectures delivered in the Russell Sage Institute of Pathology takes up the structure of the normal kidney and the different views on its functions in their relation to the pathological variations. The author then describes in a clear and simple manner the degenerative and exudative features of nephritis, their results and terminations.

The lecture on chronic interstitial nephritis is particularly interesting. In it the author discusses the relation between chronic interstitial nephritis (or productive nephritis) and the frequently coexisting lesions of the serous membranes and lymphatics and the bearing these have on the production of edema.

The classification of nephritis used by the author is based, naturally, on anatomic changes. It is simple and certainly very rational and might well be adopted for clinical use.

As the author says in closing, he has not acquainted his hearers with new and startling ideas but has followed well-trodden paths. Herein lies the value of the book. These clear-cut and definite anatomic descriptions of the course and changes in the kidney cannot help but lead to a better understanding of the clinical course of the disease and its management.

Manual of the Diseases of the Eye, for students and general practitioners. By Charles H. May, M.D., New York. Seventh edition, revised. With 362 original illustrations including 22 plates, with 62 colored figures. New York: William Wood & Company, 1911. Price $2.00 net.

This book is so well and favorably known that it would seem superfluous to offer anew our recommendation of it as one of the very best manuals of diseases of the eye. Its popularity is attested by the demand for seven editions within a period of a few years, and many of the editions have had to be reprinted. The high character of the work is also attested by the fact that it has been printed in the German, Italian, French, Dutch, Spanish and Japanese languages. Even in England and in other European countries, as well as in Japan, the book has gone through two and sometimes three editions.

The author has presented a concise, practical and systematic manual of diseases of the eye, intended for the student and the general practitioner of medicine, and he has accomplished his purpose of preparing a book in which he has said enough but not too much. In this seventh edition every page has been examined, many alterations have been made, and numerous paragraphs added on subjects such as Trachoma Bodies, LaGrange's Operation for Glaucoma, The Use of Salvarsan (606) in Syphilitic Ocular Affections, Injections of Tuberculin, Kronlein's Operation, etc. A new chapter on the Ocular Manifestations of General Diseases, also appears in this edition. The volume has been kept up to date, sufficiently comprehensive and yet of limited size. Numerous illustrations in black and white and in color add to the understanding of the text. The work of the publishers has been well done. We have no hesitation in recommending the book as one of the very best of its kind.

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ISSUED MONTHLY under Direction of the Council

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ADDRESS

THE NECESSITY FOR MEDICAL COOPERATION *

F. C. HEATH, M.D.
President Indiana State Medical Association
INDIANAPOLIS

What I have to say to-day could more properly be designated as opening remarks than as an address, since I have decided, on account of the fulness of this program, to consume but a very few minutes. But our by-laws require that the president deliver an annual address and I therefore dignify these few words with that high-sounding title. I am sure there will be general approval of the plan, inaugurated this year, of doing away with the usual cut-and-dried exercises, so long carried out on the night of our first day's program, and substituting a banquet which, from the ability of the participants and the nature of their subjects, ensures an enjoyable time and an emphasis of important things for the benefit of the profession and the causes we represent.

It seems to me that we have reason to congratulate ourselves on the excellence of our program in its varied lines, and every member should be able to get something of value from his attendance at this meeting. During the past year I have communicated my views three times through the *Journal* of the State Association and what I said in those letters may be regarded as a part of this address, and needs no further repetition than to remind you that I showed, in the first letter, how it was absolutely necessary for the Association to have some one at Indianapolis to represent its interests when the Legislature was in session, some one in whom the members had perfect confidence and whose leadership in times of emergency they might have to follow blindly, although it would greatly help the Committee on Public Policy and Legislation, if the county, district and state societies should take action on important matters and communicate with the committee, and if individuals should also send their views. The second letter was mainly about this meeting and the plans for its success with incidental lessons regarding the duty of members to take an active interest in the work and thus help on the great causes for which we stand, and also to aid the President in promoting harmony and dispatching the business in a way to interfere, as little as possible, with scientific sessions and regularly-arranged social functions. The third letter enlarged on the purposes of the Association given in the second article of the Constitution, as to extending medical knowledge, advancing medical science, elevating the standard of medical education, securing the enactment and enforcement of just medical laws, guarding and fostering the material interests of the members, enlightening public opinion, and, especially, promoting friendly intercourse among physicians and uniting in a compact organization, to increase the capability, honor and usefulness of the profession.

I wish to indorse the appeal of my predecessor for our State School, agreeing with him that "it is the one object worthy of our best effort."

And I cannot make strong enough my conception of the importance of harmony and efficient organization. This becomes doubly apparent when we observe the activity of that combination of quacks and fakers masquerading under the name, "League of Medical Freedom."

It was my privilege to sit next to Dr. G. Frank Lydston of Chicago at a medical banquet in Greensburg some months ago, and no one received my remarks about that organization more enthu-

* President's address delivered at the annual session of the Indiana State Medical Association at Indianapolis, Sept. 28, 1911.

siastically than he. In fact he told me that nothing had made him more angry than the assumption of these people that, because he had vigorously disagreed with some things done by officers of the American Medical Association, he would for one moment countenance anything so disreputable and odious as that "League of Medical Freedom."

We have come to preach not only the virtue but the advantage of harmony. Standing by each other raises respect for the profession and increases the work of all its members. We must unite to fight the common enemy. We must try to improve our places of residence as medical centers by uniting in good work and thus bringing more people to us.

The Council on Medical Education of the American Medical Association has requested presidents of state associations to emphasize three necessary things in their annual addresses: first, the appointment of the very best available men on state boards of medical examiners; second, the including of practical laboratory and clinical tests in the examination of candidates for license to practice medicine; and third, a single portal to the practice of medicine.

These are all important, the last especially in these days of osteopaths, Christian Scientists and optometrists, all of whom are practicing medicine without proper qualifications and for pecuniary gain only. The profession should fight all these back-door entrances into our field of work, not only for our own good but for the protection of the people against the evils of fraud and incompetence. One standard only, and that a high one, should be insisted on for those who have to do with the important matters of sight, hearing, health and life.

It is sometimes said that a doctor should take no part in politics. Dr. W. H. Stemm, Councilor of the Fourth District of our Association and Mayor of North Vernon, in an able address before the medical society of his district, which was printed in a recent number of The Journal, showed conclusively the absurdity of this position. Of course a doctor should not neglect his business for politics, nor make his partisanship offensive to his friends on the other side of the political fence. He should not get down into the mire and filth of dirty politics; neither should any one else. But the doctor and every good citizen should be active enough to take power out of the hands of vicious elements. Holding aloof and crying out about the corruption of politics is too much like the Pharisee. Step in and help make things right. The doctor can do more than any one else in the field of sanitary and medical legislation and administration. He alone can keep health boards and hospitals out of politics. He is responsible for the health of the community as much as for his individual patients. Moreover his professional work so disciplines his thinking and reasoning powers and brings him into such close relations with the people that he is more competent than most citizens to do right thinking on all the important matters of legislation, education and law enforcement.

I thank you again for honoring me with the office of president of this great organization, and, in entering on the duties of our annual session, I wish to express my intention of relying on your cooperation to make the meeting a great success.

President Heath: I notice that Dr. W. H. Wishard, has come in. He is the only surviving charter member of the Indiana State Medical Association. He has also been long a member of the Indianapolis Medical Society, and we would like to have a few words from him, speaking in behalf of the local society and welcoming the State Association. (Applause.)

Dr. W. H. Wishard (Indianapolis):

Mr. President and Gentlemen of the Indiana State Medical Association: I regret that I have not the mental or physical ability to do justice to an occasion of this kind. It overpowers me to meet you here to-day. Where, oh, where, are the men who were with me when we organized this society? Gone to that bourne from which no traveller returns. I am the only one who survives.

It is a great privilege to meet with you here to-day —and I was going to say, see you; but I cannot see you. It is a privilege I did not expect to have, but I thank you for the welcome you have given me. I thank God that I am permitted to meet with you once more this side of the Great Beyond.

There are many things I would like to speak of, but my infirmities, the result of old age, are such that I decline to enter into any discussion or lengthy talk. But I welcome you to our city, where the organization first met. I welcome you as medical men who have fought battles for humanity and advanced the science of medicine. When I look back to Chapman's Therapeutics and Cooper's Surgery, the works I read beginning with the 28th day of February, 1838, and compare them to-day, it is not the same profession. I look at these books as relics of bygone days.

Now, permit me not only to welcome you, but to advise you to rise in the future, as your fathers have in the past, in medical science and moral worth, and in everything that goes to make up a true man and worthy citizen. (Applause.)

President Heath: I will not attempt to reply to this address of welcome, other than to say that this great Medical Association is proud and happy to have with us to-day our dear friend, Doctor Wishard, and to hear his words of welcome. I am sure no man could be better preserved for such an age, and no man has lived a better life, and we can do no better than to emulate his life of virtue, harmony and optimism. (Applause.)

(At this time President Heath read a telegram of greeting from the Michigan State Society, and

instructed the Secretary to send the greetings of this Association in return.)

TUBERCULIN AND AUTOGENOUS VACCINES IN THE TREATMENT OF PULMONARY TUBERCULOSIS. A COMPARISON OF RESULTS IN 425 CASES *

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Because of the complexity of the clinical picture presented by chronic pulmonary tuberculosis, the long period of time over which the infection usually extends, and because of the sudden turns the disease may take spontaneously for better or for worse, the determination of the value of any particular therapy is extremely difficult. For this reason the value of tuberculin in the treatment of pulmonary tuberculosis is still far from being a definitely settled question, but within the past few years tuberculin has been growing in favor and many reports—more or less convincing—as to its value have been presented. In fact, we are coming out of the period of reaction resulting from the disastrous results of overenthusiasm and misuse at the time of its introduction and it is now well established that tuberculin if used carefully and in minute doses in well controlled cases is not dangerous and the conclusions drawn from the mass of information at hand are that tuberculin is a valuable adjunct in the treatment of tuberculous infections. How are we to determine the value of tuberculin? The course of the disease is so irregular and the immediate action of tuberculin—if used in small doses—is so slight that no definite convincing evidence is furnished by the clinical course of the disease and hence case reports have been of little value in determining either the worth or uselessness of the tuberculin treatment. Many cases not receiving tuberculin have made remarkable recoveries and others have progressed rapidly to death. The same is true of cases receiving tuberculin and, in fact, in an institution where a large number of cases have been treated by the hygienic-dietetic method alone simultaneously with cases specifically treated no suggestion of a difference in the progression of the disease in the two groups could be conscientiously noted.

Animal inoculation experiments have not given us much information. Some observers have noted an increase in resistance to tuberculous infection in susceptible animals following injections of tuberculin. Other investigators have found no change or an increased susceptibility in the inoculated animals.

A number of investigators have also noted an increase in the antibody content of the blood following tuberculin injections, but the immunity reactions have never been sharp and many workers have failed to demonstrate them entirely.

Observation of clinical phenomena, animal experimentation, and immunological studies are neither convincing nor decisive and in order to determine the therapeutic value of tuberculin it is necessary to compare the results in a large number of cases treated with and a large number of cases of the same kind, under the same conditions, treated without it. This has been done in a large number of reports. The most important criticism, and a very just one, of this sort of statistical study has been that the tuberculin-treated cases were *selected* and the control cases were not, and hence the tuberculin-treated cases from the start, had the best of it. In the results presented in the present paper an examination of the accompanying table (Table II) will show that in the tuberculin-treated group practically all classes and types of pulmonary tuberculosis were included and, while selection of cases was made with reference to certain well-known indications and contra-indications, no selection of cases as to the progression of the condition was made.

In the statistical studies made by various workers several different criteria of improvement have been used as the basis of comparison. These various criteria are (1) regulation of fever, (2) regulation of the pulse, (3) effect on expectoration, (4) disappearance of tubercle bacilli from the sputum, (5) prevention of relapse, (6) condition at discharge, and (7) ultimate results: that is, condition at least two years after discharge.

Numerous observations on the temperature curve in tuberculin-treated cases have been made but these observations are lacking in controls. The reports of Bandeliere and Roepke[1] are the most complete.

The effect on the pulse is a point that has not attracted a great deal of attention but in twenty-two cases with low grade fever—99.2 to 99.6—but with persistently high and irregular pulse, I have noticed a comparatively rapid return to the normal following the administration of bouillon filtrate. The explanation of this action may be

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* One of the papers in the symposium on tuberculosis, presented at the annual session of the Indiana State Medical Association at Indianapolis, Sept. 28, 1911.

1. Bandeliere and Roepke: Translation from Second German Edition by E. C. Morland. 1909. Wm. Wood & Co.

that a toxin neutralization follows the injection of the soluble antigen. A more complete study of this point and a comparison with control cases will be made after more cases have been treated.

The effect of tuberculin on the expectoration is a point that has received a great deal of comment, but on which there has been very little quantitative work done. The immediate effect of tuberculin in doses that cause slight reaction is an increase in the expectoration, usually followed by a decrease or return to the usual amount after forty-eight to seventy-two hours. Whether the repeated injection of the various kinds of tuberculin causes a more rapid disappearance of the sputum is hard to determine. Many writers, from clinical observations, say that it does, but the author in a comparison of the sputum in ten expectorating cases receiving tuberculin and in ten expectorating cases not receiving tuberculin, weighing the sputum every day for thirty days, could see no constant differences in the two groups that could be attributed to the tuberculin administration.

A study of the disappearance of the tubercle bacillus from the sputum is extremely important and one of the most convincing points in the evidence presented in favor of tuberculin. Tuberculin is a specific remedy for the tubercle bacillus and its action is directed against this causative agent alone. There is a preponderance of evidence showing that secondary infection with the various pyogenic organisms—particularly the streptococci, staphylococci, and pneumococci—plays an important rôle in the production of the

TABLE 1 (A).—LASTING RESULTS.* COMBINED HYGIENIC-DIETETIC AND TUBERCULIN TREATMENT

Name of Institution and Author	Tuberculin Used	No. Cases	Time After Discharge	Results	Remarks
Renon Hosp. de la Pitie of Paris and private practice	Tuberculin for "medicinal use" of Pasteur Institute.	30	1 to 2 years....	63% ameliorated ..	†
Bernheim and Barbier Hosp. and Dispensary for Tuberculosis (human).....	Jacobs' tuberculin...	628	1 to 2 years....	62% healed and benefited.	No hygienic - dietetic treatment used.
Jacobs (Brussels) Cited by Bernheim and Barbier...	Jacobs' tuberculin...	500	1 to 3 years....	54% cured or ameliorated.	.....
Stephanie Montana Sanatorium	Deny's B. F.....	34	1 to 2 years....	58% healed or definitely better.	.....
Moeller Belzig Sanatorium.	O. T. and B. E.....	193	Av. of 3 years.	77.8% healed or better.	.....
Humbert Davos	Beranek	36	3 to 5 years....	44.4% cured	‡
Goetsch Slawentzitz Hospital	O. T.	175	1 to 6 years....	71% "cured"	Early cases.
Turban	O. T.	89	1 to 7 years; average 4 yrs.	51.7% working	Working capacity not at all or only slightly impaired.
Bandelierc	B. E. and O. T. (bovine).	204	After 4 years...	61.9% healed or almost entirely self-supporting.	.....
Denys Dispensary and private practice	B. F.	442	4 to 5 years....	64.3% cured or ameliorated.	No hygienic - dietetic treatment in a majority.
Von Ruck Winyah Sanatorium	O. T. and watery extract.	215	4 or 5 years....	68.3% healed or bettered.	.....
Denison	Watery extract	33	1⅔ years	84%	Best of group of 213 cases in which various products were used.
Ludke	O. T.	100	.....	62% improved	.....
Heron	.....	32	7 years	31% cured	.....
Rembold	O. T.	70	6 years	35.7% cured or improved.	.....
G. R. Pogue.....	O. T.	167	1⅓ years	64% arrested	Selected.
Miller (J. A.).....	O. T.	70	1 to 6 years; average 2 yrs.	46.9% cured or felt well.	Dispensary cases.
Hawes and Floyd.....	.....	46	1 to 2½ years..	56% arrested	Day camp cases.
Pottenger Monrovia	T. R., B. E., B. F., O. T.	121	1 to 7 years....	84%	Selected.

Approximately 2,841 cases treated; approximately 1,931 benefited (68 per cent.).

* The larger portion of the European references in this table are taken from a table compiled by Dluski (Beitrage z. klin. d. Tuberk., xvi, 71).

† In a Paris hospital hygienic-dietetic methods cannot be strictly carried out; 24 of the cases were in the hospital, 6 in private practice.

‡ Of this group it should be noted that all these cases with the best hygienic-dietetic treatment did not get better and were of dubious prognosis before tuberculin was used; therefore the results should, in a large measure, be attributed to the tuberculin.

This table includes the published results from both state and private institutions. It should be recognized that in the selection of cases for state institutional treatment a better selection can be made than with private institutions. This plays an important rôle in the average of results of treatment presented by various institutions, but even in institutions taking only selected cases the range of figures is great. In the cases presented by Schroder, Reiche, Kohler in the Sanatorium Rossbach and in the cases of Carriere, and Gebhard the hygienic-dietetic method alone was employed. Meissen used tuberculin in "selected cases," considerably less than 10 per cent, Weicker employed tuberculin in about 15 per cent. of his cases. In Friedrichsheim the number of specifically treated cases is calculated at a maximum of 10 per cent. Turnau employed tuberculin in about 2 per cent. of his cases. The total number of cases in Table B treated with tuberculin is approximately 7 per cent. (with Reiche the figures 65 and 654 are omitted and only the last figure, 1,263, is considered). I believe, accordingly, that so small a number—7 per cent.—of specifically treated cases can have but little influence on the ultimate results ascribed to hygienic-dietetic treatment and the presence of tuberculin treatment in 7 per cent. of this group of cases is more than offset by the absence of any hygienic treatment in the cases presented by Denys, Renon, Bernheim and Barbier, Miller and Pogue.

TABLE 1 (B).—LASTING RESULTS. HYGIENIC-DIETETIC TREATMENT ALONE

Name of Institution and Author	Number of Cases	Time After Discharge	Results	Remarks
G. Schroeder Neue Sanatorium Schomberg	181	3 years.	55.6% cured or "clinical cures."	
Meissen Hohenhonnef	248 incipient cases only.	3 to 11 years.	84% well and self-supporting.	Tuberculin in less than 10%.
Weicker Krankenheim in Gorbersdorf	3,299	4 years.	38.3% fully self-supporting.	Tuberculin in 256 cases, or 15%.
Reiche Landesversicherunganstalt der Hansestädte	65 after 4 years; 654 average 4 years; 1,263	57%; 62% self-supporting. 63.6% cures; 80% self-supporting. 3-9 years (?) 57.3% cured.		
Kohler Heilstatte Holsterhausen.	781	4 years.	53.5% self-supporting; 67.7% fully or partially self-supporting.	
According to Jahresberichten Rossbach Friedrichsheim Stadtwald and Moitkefels	563 670 640 (1902) 632 (1903) 716 (1904)	4 years. 4 years. 4 years. 4 years. 4 years.	44.2% self-supporting.... 60% working..... 58% fully self-supporting.	Tuberculin in less than 10%.
Saugman Sanatorium Veljefjord.	662	5 years.	49.7% wholly or partially self-supporting.	
Carriere (Berne) Baselsche Heilanstalt in Davos	284	5 years.	52.9% able to work; 56.9% wholly or partially self-supporting.	
Turnau Heilanstalt Heiligenschwendi	3,200	6 years. 9 years.	69% fully or partially self-supporting; 40.2% entirely or partially self-supporting.	Tuberculin in 64 cases, or 2%.
Gebhard Landesversicherungsanstalt Hansestädte	6,025	9½ years.	34.4% entirely or almost entirely self-supporting.	
Ruge Heilanstalt	113	10 years.	33.6% cured or clinically cured.	
Hawes and Floyd Day Camp	42	3 months to 2 years.	59% arrested	Length of time too short since discharge.

19,249 cases treated; 9,614 cured or ameliorated (50 per cent.).

symptom-complex of chronic pulmonary tuberculosis and even though clinical variations between specifically treated and non-specifically treated cases cannot be clearly demonstrated, bacteriological examination of the sputum shows a definite effect upon the tubercle bacillus. There is a marked uniformity in the results reported by various workers in this particular field.

Lawrason Brown[2] found that the tubercle bacilli disappeared from the sputum in 67 per cent. of incipient cases and 44 per cent. of moderately advanced cases treated with tuberculin and in 64 per cent. of incipient cases and in only 24 per cent. of moderately advanced cases not treated with tuberculin. Kreuser,[2] selecting 110 cases with bacilli in their sputum, treated fifty-five with tuberculin and fifty-five without it. The tubercle bacillus disappeared from the sputum in 40 per cent. of the tuberculin-treated cases and in only 29 per cent. of the cases not treated with tuberculin. Phillipi[2] found the tubercle bacillus disappeared from the sputum in 58 per cent. of his cases in the second stage (Turban) treated with tuberculin and in 31 per cent. of his cases in the third stage. In his cases not treated with tuberculin the bacilli disappeared from the sputum in only 19 per cent. of the cases in the second stage and 7 per cent. of the cases in the third stage.

2. Brown, L.: Tuberculosis, Klebs, 1909. Appleton & Co., N. Y., 564.

Turban[3] reports that in cases treated with tuberculin 41 per cent. lost the bacilli from their sputum while cases not treated with tuberculin only 27 per cent. lost their bacilli. Nagel[4] found the bacilli disappeared from the sputum in forty-eight of ninety-six patients treated specifically, or 50 per cent., while the tubercle bacillus disappeared from the sputum in only thirteen of sixty-five patients, 20 per cent., not treated specifically. Lowenstein[5] in 989 cases treated with tuberculin, giving old tuberculin to 682, bacillen emulsion to 204 and both to sixty-nine obtained the following results:

In cases receiving O. T., the tubercle bacillus disappeared from the sputum in 57.9 per cent.

In cases treated with B. E. the tubercle bacillus disappeared from the sputum in 42.05 per cent.

In cases treated with both O. T. and B. E. the tubercle bacillus disappeared from the sputum in 55 per cent.

Concerning relapse Lyman[6] treated sixty-seven cases with tuberculin and 374 without. After eight months 19 per cent. of the treated cases and 27 per cent. of the untreated cases were dead. Hawes and Floyd,[7] in comparing the results in forty-six cases treated with and forty-two cases

3. Cited by Pottenger, F. M.: Pulmonary Tuberculosis, 1908. Wm. Wood & Co., N. Y., 202.
4. Nagel: Beitrage. z. klin. d. Tuberk., v, 489.
5. Lowenstein: Deutsch. med. Wchnschr., xxxvi, 1641.
6. Lyman, D. R.: Yale Med. Jour., October, 1910.
7. Hawes, J. B., and Floyd, C.: Boston Med. and Surg. Jour., Jan. 6, 1910.

treated without tuberculin found that as many treated cases relapsed as the untreated, but the untreated relapsed in a shorter time.†

Using the condition at discharge as a basis for comparison a large number of reports of tuberculin treatment have been made. The results of Goetsch, Langenbach and Wolf, Ludke, Moeller, Brown, Bandeliere, Schmoeller, Weicker, Pottenger and others show that more cases receiving tuberculin are discharged apparently cured or arrested than cases not receiving tuberculin, especially among the moderately advanced cases. This advantage, as previously stated, may be due to the fact that, as a rule, the tuberculin-treated cases were selected, and the control cases were not. These reports, therefore, are not conclusive.

The question of greatest importance is the *permanency* of results. How many cases treated with tuberculin and how many treated without tuberculin are definitely and permanently cured? The disappearance of the tubercle bacillus from the sputum is convincing, the prevention of relapse and the discharge of more cases as arrested and apparently cured is certainly indicative but the really important issue is *how many stay cured?*

Therefore a comparison of ultimate results (at least two years after discharge) in a large number of cases treated with and a large number of cases treated without tuberculin should be of value, and hence I have used this criterion as a basis for comparison in the study of the problem.

Many similar reports have been made and before presenting my own results I wish to call attention to the results obtained by other observers. The reports of other workers are summarized in the accompanying table. (Table 1.)

An examination of this table shows a very wide range in the results obtained by various workers, both those employing and those not employing tuberculin. The variations are, I believe, due to two important factors, (1) classification of patients treated, and (2) interpretation of results obtained. These two factors depend very largely upon the personality of the author presenting the statistics. Extraneous factors such as nationality, occupation, social status, housing conditions, diet, etc., are undoubtedly important, but by adding together the results reported in a large number of cases—about 22,000—from a large number of sources (the results of thirty-two authors are presented in the above table) the effect of personal factors and to some extent the influence of extraneous causes while not by any means eliminated, would tend to be neutralized.

TABLE 2

Stage of Disease	No. Cases		Cured		Clinical Cures		Marked Improvement		Condition Bad		Dead	
	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated
Incipient	52	78	28	40	8	12	6	4	4	2	6	20
Per cent.	.....	.....	53.84	51.28	15.38	15.38	11.53	5.12	7.7	2.56	11.5	25.64
Mod. advanced..	89	135	18	22	15	12	8	3	14	13	34	85
Per cent.	.....	.....	20.22	16.3	16.85	8.9	8.97	2.3	15.73	9.6	38.2	62.9
Far advanced ...	5	21	0	1	0	0	0	1	0	0	5	19
Per cent.	.....	.....	0	4.8	0	0	0	4.8	0	0	100	90.4
Total	146	234	46	63	23	24	14	8	18	15	45	124
Per cent.	.....	.....	31.5	26.9	15.7	10.25	9.57	3.41	12.3	6.41	30.8	52.9

Taking the total number of cases treated with tuberculin, reported in the above table (2,841) there were 1,932 cases cured or benefited from one to seven years after discharge or 68 per cent. In the 19,249 cases not treated with tuberculin 9,614 were cured or benefited or 50 per cent. This shows an advantage of 18 per cent. in the tuberculin-treated cases, a very substantial advantage.

Turning to my own results, in the cases treated at the Ottawa Tent Colony only those discharged at least eighteen months—average three years—and present in the institution at least two months are reported on. In the group of cases receiving tuberculin only those receiving at least ten injections are considered. Of the 784 cases admitted to the institution up to January, 1910, only 510 fulfilled the above conditions. In eighty-nine cases in this group the classification was not recorded and these cases are therefore eliminated. Forty-one other cases could not be traced, leaving

†In 170 cases at the Ottawa Tent Colony treated with tuberculin, 44, or 25.8 per cent., were dead in from two to six years. In 339 cases not treated with tuberculin, 171, or 50.4 per cent., were dead in from two to six years.

380 cases to be reported upon. In this group of 380 cases 146 were treated with tuberculin and 234 similar cases were treated by the hygienic-dietetic method alone. The conditions of housing, diet, exercise, were the same in both groups. The information concerning the cases since discharge was obtained from the physician who referred the case to the institution in a majority of instances; in the remaining cases the information was obtained from the patient's family or the patient himself.

The results obtained are tabulated as follows:

An examination of this table shows that the percentage of incipient cases cured and benefited in the tuberculin-treated group is about the same as in the untreated. However, the percentage of deaths in the untreated is over twice that in the tuberculin-treated group. In the moderately advanced stage the tuberculin-treated cases show a marked advantage both in the percentage cured and improved and the percentage of deaths in the tuberculin-treated group is very much less than in the untreated. The number of cases in the far advanced stage—in both the treated and untreated groups—is too small for comparison, but from the cases recorded it can be seen that little in the way of treatment can be done for these far advanced cases.

These findings are very similar to the results reported by Brown, Pottenger and others and shows that tuberculin is most valuable in moderately advanced cases.

In the examination of Table I it will be noted that many of the authors report their cases as "cured or ameliorated," "cured or benefited," "wholly or partially self-supporting," "healed or better." Therefore, in order to make my report more nearly conform to the reports of other investigators, I have taken the groups headed "cured," "clinical cures" and "improved" and thrown them together into a general group headed "success" (Table III). This inclusive group very closely corresponds to the "cured or ameliorated" of Jacobs, "healed or definitely better" of Stephanie or the "working capacity not at all or only slightly impaired" of Turban.

The results recorded in Table III show 16 per cent. more success in the tuberculin-treated than in the untreated cases.

A study of the number of deaths occurring from eighteen months to six years after discharge from the institution is also interesting (Table IV). The total number of deaths occurring in the tuberculin-treated cases is 22 per cent. less than in the group of cases treated without tuberculin.

TABLE 3.—SUCCESS

	Treated Per Cent.	Untreated Per Cent.	Difference Per Cent.
Incipient	80.75	71.78	8.97
Moderately advanced	46.04	27.5	18.54
Far advanced	00.00	9.6	9.6
Total	56.77	40.56	16.21

TABLE 4.—DEATHS

	Treated Per Cent.	Untreated Per Cent.	Difference Per Cent.
Incipient	11.5	25.64	14.14
Moderately advanced	38.2	62.9	24.7
Far advanced	100	90.4	—9.6
Total	30.8	52.9	22.1

This sort of statistical study is subject to many limitations—difficulty in tracing cases, looseness in classification of cases and results—and is open to criticism from many angles, but in the absence of convincing evidence from other sources—immunological studies, animal experimentation, observation of clinical phenomena and other fields of more accurate study—the present method of study is justified and the results, while not absolutely conclusive are, to me, convincing and support the view that tuberculin is of therapeutic value in the treatment of pulmonary tuberculosis especially in cases in the moderately advanced stage and is of especial value as a protection against relapse.

With regard to the autogenous vaccines during the past two years approximately 75 cases have been treated at the Ottawa Tent Colony. While it is as yet too early to come to any conclusion regarding the ultimate results, there have been certain indicators which show that in these vaccines we have another valuable adjunct to our present methods of treatment.

There is a preponderance of evidence showing that usually the tubercle bacillus alone is not the whole cause for the production of the symptom-complex of pulmonary tuberculosis. The organisms of mixed infection are extremely important contributing factors. Therefore if the injection of tubercle bacillus products are of value in increasing the resistance against the tubercle bacillus, the injections of products of these other bacteria should be of value in increasing the resistance against the secondary infection. Because the secondary infection is not the same in every case, personal or autogenous preparations should be used. As stated above, during the past two years seventy-five cases have been treated with these bacterial products, and the more rapid return of the temperature to the normal, the decrease of the expectoration, and the prevention of hemorrhage in these cases indicate, at least, that the injection of the autogenous vaccine assists the body in throwing off the secondary infection, and, I believe we are justified in stating that in tuberculin and autogenous vaccines we

have two valuable assets to the treatment of tuberculosis.

However, we should not neglect the more valuable hygienic-dietetic principles of increasing the general resistance for these other methods of increasing the specific resistance, but in order to produce the best results they should be used together.

TUBERCULIN DIAGNOSIS *

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To anyone who remembers the announcement of the discovery of the tubercle bacillus by Koch in 1882, thus solving the riddle of the ages regarding the cause of tuberculosis, and that of the production of tuberculin as a cure for the disease and a diagnostic test of its existence in the bodies of animals and human beings in 1890, with the popular furore which followed, the whole subject of tuberculosis, both theoretical and practical, must ever be of intense interest. It happened to me to be connected with the first bacteriologic laboratory established in a medical school west of the Allegheny Mountains, and to have established the first laboratory of this kind in this city and state; both having been brought into being chiefly by the then recent discoveries in the bacteriology of tuberculosis. I have followed and studied and practiced the tuberculin diagnosis continuously for twenty years, and the tuberculin treatment for fifteen years.

With the advent of the newer tuberculin tests in recent years interest in the whole question of tuberculin diagnosis has naturally been stimulated. The various tests, old and new, I have used in about 500 cases in private practice, of which I have records. The results have not been materially different from those of other observers. I have been chiefly interested in the study of the cases in private practice because of the opportunity afforded in so many to follow them for weeks or months or years, and thus to see the beginning and the end.

When Koch produced the substance called tuberculin, the culture product of the tubercle bacilli, for a time popularly known as the Koch lymph, he announced that it had a double practical value, one for cure and one for diagnosis. From his discoveries have come, directly or indirectly, all of the specific therapeutic and diagnostic measures. It is with the latter only that we have now to deal.

Koch found that the hypodermic injection of tuberculin produced a peculiar reaction which served for the detection of the disease. This reaction had two distinct features, one local and the other constitutional.

The local reaction was marked by an excitement, an inflammation, or necrosis, at the seat of any tubercular lesions, similar to that resulting from the application of an irritant or caustic. This could be seen and studied in superficial lesions such as lupus, and the evidence pointed to similar changes in the partially observable lesions such as those of glands, bones and joints, and in the deeper lesions in the lungs, kidneys and other organs. Post-mortem examinations made soon after the injections confirmed this belief, and so the general principle became established, that the injection of this agent in some way specifically attacked the tubercular lesions in any part of the body.

Along with this local reaction came more or less regularly certain general symptoms common to infections and toxic processes, namely, fever, chilliness or distinct rigor, rapid pulse, general malaise, aching and soreness of muscles and joints, and sometimes glandular tenderness and swelling. And this combination of local and constitutional disturbances constitutes the typical tuberculin reaction by the old or hypodermic method.

For years much debate followed regarding the manner in which this reaction was produced, and its specificity. Our best information on both these questions has come from animal experimentation. In clinical work the veterinarians have had the advantage of us in that they could be more free in the application of the test and in making post-mortem examinations at any desired period. As a result they have been almost unanimous in standing for the specificity of this tuberculin test. On this point Lawrason Brown, of Saranac, asserts that the few instances of negative autopsy findings in cattle after a positive tuberculin reaction may be explained by the failure to make microscopic or other ultimate tests of the tissues.

Without quoting in detail statistics and authorities, which are easily available to all, I believe we may say that the great majority of authorities in human and veterinary medicine, and the great majority of competent laboratory workers, are agreed on the specificity of the old tuberculin test, in the sense that a positive reaction means that the individual is tubercular.

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* One of the papers in the symposium on tuberculosis presented at the annual session of the Indiana State Medical Association, held at Indianapolis, Sept. 28 and 29, 1911.

This doctrine has been called in question because of the observation of positive reactions in the presence of certain other diseases and in the absence of clinically recognizable tuberculosis. Statements have got into the literature and been handed down that syphilis, actinomycosis, leprosy and some other diseases may give a tuberculin reaction.

The more this matter is sifted the more doubtful it becomes. We should, of course, expect that a considerable proportion of those having these diseases would also have tuberculosis and would therefore react.

The negative results in known cases of these diseases are of greatest significance. I have made a series of such experiments on twenty-five known syphilitics, with a growing conviction that syphilis does not *per se* react to tuberculin. I well remember the first case of this kind, soon after the advent of tuberculin, in which Dr. Brayton and I gave large doses of tuberculin for a supposed lupus, without effect and without reaction, the disease being subsequently cured by antisyphilitic treatment. In another case cough, expectoration and hemoptysis, without tubercle bacilli in the sputum, led me to make the tuberculin test somewhat energetically but with negative result. Subsequent lesions and a history of probable infection led to successful antisyphilitic treatment. This patient is still living in this city and after fourteen years has shown no evidence of tuberculosis. Several such experiences it was which led me to study the matter systematically and with the conviction stated. On this important point I may again quote Lawrason Brown[1]: "Many diseases other than tuberculosis are said to react to tuberculin. It is a strange fact, however, that in spite of the many opponents to tuberculin so few authenticated necropsies have been adduced to uphold this view. Many cases that have been reported as examples of other diseases reacting to tuberculin prove on investigation to be of little value, and in some cases may be used as arguments on the opposite side. So far no case of syphilis, actinomycosis, leprosy or chlorosis which reacted to tuberculin has been proved at post-mortem to be free from tubercle."

But another question now arises: Do all cases of tuberculosis react to tuberculin? They certainly do not, at least not to the ordinary or standard doses.

Of course, tuberculin being a poison, a sufficient amount may be given to make any well man sick. The attempt has therefore been made to establish a standard maximum dose for diagnostic purposes. Koch has set this standard at about 10 mg. of the old tuberculin, and this has been quite generally accepted. We practically never use more than 10 mg., and, of course, usually much less. Indeed, we seek, for the safety and comfort of the patient, to use the least amount which will produce a sufficiently characteristic reaction. If a true tuberculin reaction, as distinguished from a tuberculin intoxication, will occur at all, it will practically always occur to a dosage within 10 mg., and this is especially true of cases of incipient or early disease. But some undoubtedly tuberculous persons fail to react to such dosage or even to any dosage. Experience and post-mortem study has given us a fairly complete classification of these exceptions to the rule. Adhering to the standard maximum of 10 mg. the exceptions are: (1) very acute (not meaning early or slight) cases which may fail to react; (2) very advanced cases, with or without secondary infections and secondary toxemias; (3) those moribund from tuberculosis or other disease, the failure being presumably due to the deficiency or absence of tubercular antibodies to unite with the tuberculin to produce the reaction; (4) in the presence of some other acute infections, as, for example, measles; (5) "healed or completely encapsulated foci may fail to react at least to moderate doses, though many cases of surgical tuberculosis react long after they have been pronounced cured." Small doses have, therefore, been used as a test of the progress of cure, of course in those who have not had a recent course of tuberculin treatment.

Bearing in mind these exceptions, it will be found, I believe, that clinical tuberculosis rarely indeed fails to respond characteristically to tuberculin injections within the standard of 10 mg., and I can endorse the statement of Lawrason Brown that "farther than this (some completely encapsulated cases and some advanced and moribund cases) little proof has been adduced to show that tuberculosis fails to react to suitable doses of tuberculin. No case of early or incipient pulmonary tuberculosis has yet been shown to fail to react to a dose of 10 mg. or less of old tuberculin."

On the question how this reaction is brought about there has been much speculation, and nothing is finally settled.

Plainly it is not a direct tuberculin intoxication, for non-tuberculous animals and persons are not made sick by the ordinary doses.

Is it the result of the combination of the introduced tuberculin with antibodies in the blood of the patient? Is there always first a reaction

1. Osler's Modern Med., iii.

excited in the tubercular lesions, resulting in the sending out of new substances, toxins or otherwise, which cause the constitutional symptoms? We do not know with certainty. But I have been strongly inclined to believe that the reaction under the hypodermic method depended on something occurring first in the local lesions. With very small doses and slight reactions, such local changes might easily escape detection, though they probably aways occur. I will not here pursue this question into its intricate mazes, tempting though it be, for we have other matters of more practical import to discuss.

Some things are to be borne in mind regarding the hypodermic tuberculin test. And first of all, the tuberculin should be reliable. I have been accustomed to use for this and for the newer tuberculin tests the German tuberculin, which is made and tested under official standards. But several American firms offer a product which is doubtless quite reliable.

Inasmuch as we depend, in most cases, chiefly on the constitutional features of the reaction, the patient should be under observation for a time, his temperature being recorded, and, of course, a careful physical examination being made. Otherwise we cannot judge intelligently of the results. Twenty-four hours is the shortest period of preliminary observation, and a longer time is more satisfactory. Some time ago I had under observation a case of suspected Addison's disease, in which suprarenal tuberculosis is the most frequent lesion. The temperature had been carefully recorded for two weeks. Following a tuberculin injection of 2 mg., there was a rise of the temperature, with moderate general malaise. But examination of the chart showed that a similar disturbance had occurred a week previously without obvious explanation. In the absence of any recognizable focal reaction I was still in doubt. Feeling timid about exciting a sharp reaction in the suprarenals, I did not carry the hypodermic test farther. The Moro test was negative. This leads me to say a word about the cases in which this test should be omitted or used with much caution. I have never given a hypodermic tuberculin injection in a case of suspected tuberculosis of the brain or the eye, and until the experience at Johns Hopkins Hospital seemed to warrant it, I did not use it in suspected kidney or suprarenal disease. This for obvious reasons. When used in the presence of possible tuberculosis of such organs, only small doses should be given at first, and an accurate preliminary record should be obtained, thus making the small dose and the slight reaction available for diagnosis.

There are those who depend much on the local or focal reaction in internal lesions such as those in the lungs. But I do not think that this is either wise or practicable except in a limited number of cases. If, in such diseases we wisely adhere to the smallest dose which will produce a recognizable reaction, the focal reaction becomes a very uncertain and unreliable thing. In such lesions as those of the glands, skin and joints, we may often, after excluding, by physical examination and small tuberculin doses, serious internal disease, proceed rapidly to larger doses for the purpose of producing recognizable focal reactions.

Here, in the production of such focal reactions, lies one of the advantages of the hypodermic test, and one which it will probably retain over any or all of the newer tests. This fact is sometimes overlooked by those who hastily announce that the hypodermic method is entirely replaced by the others.

The hypodermic test is the oldest, the most time-tried, and is certainly the one in which variability and accuracy of dosage are most possible. You will notice that many of those who have been experimenting with the newer tests have used it as the check-method. Doubtless not merely routine but familiarity and experience do much to determine our attitude in the use of diagnostic as well as therapeutic methods, and I hope I am not simply prejudiced in saying that, while of late I have used the newer tests freely and chiefly, I still believe the older one to be the most reliable and to cover a wider field. On this point I may quote Theodore Sachs, of Chicago, who says[2]:

"The subcutaneous test remains the decisive diagnostic procedure in doubtful cases of tuberculosis, particularly if a focal reaction is desired. The possible unfavorable effects of this test, in some cases, may be avoided by the use of small doses, 0.2 or even 0.1 mg., according to the age and condition of the patient."

THE LOCAL TUBERCULIN TESTS

At the Berlin Medical Society, in May, 1907, von Pirquet announced the discovery of the cutaneous tuberculin test, which consists of a superficial scarification of the skin through a drop of old tuberculin and the subsequent appearance of a characteristic papule and areola at the point of inoculation.

This new diagnostic procedure was made possible by the researches of von Pirquet and Schick into the general law of "allergy" or the altered reaction of the organism toward infective agents

2. Jour. A. M. A., Jan. 21, 1911.

or their specific products on their reintroduction. It will be remembered that Koch had already noted certain of these phenomena of allergy in his early experiments with tubercle bacilli and tuberculin.

"The early vaccinal papule appearing on revaccination against small-pox, as well as the cutaneous papular reaction following the application of tuberculin to the skin of tuberculous individuals, were both ascribed by von Pirquet to the contact of the infectious agent with antibodies lodged in the integument as the result of previous infection. The hypersensibility of the infected organism, displayed on reinfection, was shown to be a factor in the production of the reaction, the mechanism of which is supposed to consist in the digestion of the introduced virus by the antibodies and the liberation of a toxic substance with its inflammatory effect on the skin at the point of inoculation.

"While this and Wolff-Eisner's explanation of the local reaction (substituting bacteriolysins for antibodies), are at present quoted by various writers, the entire question in its theoretical and practical aspect is still a subject of extensive investigation" (Sachs).

About the same time came the announcement by Wolff-Eisner and Calmette of a similar reaction in the eye, on the application of a weak solution of tuberculin, and that by Moro of a skin reaction following the inunction of a 50 per cent. tuberculin ointment. Various modifications of these local reaction tests have been made. But since they all depend on the same principle and are for the most part but petty and useless attempts at refinement, they may be disregarded.

The Moro inunction test is so crude and subject to such possibilities of inaccuracy, that it is rapidly passing into disuse and I shall not do more than mention it in this discussion.

The Wolff-Eisner-Calmette eye test, and the von Pirquet skin test, need alone engage our attention, for whatever is of real interest or value in any of the new procedures is probably inherent in these. And first as to the materials used:

For the eye test it is customary to apply a 1 per cent. solution of old tuberculin, the dilution being made with normal salt solution. Calmette popularized a solution of "purified tuberculin" made by precipitating the old tuberculin with alcohol, washing, and dissolving in salt solution. This probably has no advantage and is being discarded by many observers.

Some advocate a one-half of 1 per cent. solution to be used in the first eye, the stronger solution to be used in the other eye in case of a negative result in the first.

It is quite generally agreed that the eye test should seldom, if ever, be used in young children, or in old people, because of the special susceptibility of their eyes to serious inflammation, nor in eyes which are the subjects of present or past disease or injury or pronounced refractive errors.

Because of these limitations and of the delicacy of the eye as an important organ, and of the necessity of close oversight for some time after the test, the eye reaction has already largely fallen into disuse, being replaced by the von Pirquet test.

I shall, therefore, not give much space to the discussion of it, especially since much which might be said about its fundamental properties applies equally to the other tests which are based on von Pirquet's studies in "allergy."

I have used the eye test in 130 cases in private practice, often comparing it with the von Pirquet, Moro and hypodermic tests in the same patient. So far as I am aware no ill effects have followed, since care was taken to exclude improper cases. In one case, however, in my hospital service, the hypodermic test was made in a man in whom three weeks previously the eye test had been made in both eyes, one negative, the other positive; a sharp return-reaction occurred in both eyes which lasted for about two weeks and required special treatment. The eyes finally completely recovered.

The chief and, really, only interest at present in the eye test gathers about the question whether it is more valuable than the other local reactions in indicating an active or "clinical" tuberculous process. Opinions on this point differ, but some of the most reliable observers still give support to this view.

It is to be remembered that all of the tuberculin tests are more apt to be positive with small doses in the presence of an active process even though the lesions be slight.

But the eye test, with the weak solution commonly used, is not as sensitive as the skin test. If, therefore, it is positive, it may point more strongly to an active disease.

On this point Haman and Wolman in their excellent study of the whole matter of the local tuberculin reactions based on 1,500 cases at Johns Hopkins Dispensary,[3] say: "The conjunctival test, if we employ only solutions not strong enough to threaten the safety of the eye, is not nearly so sensitive as the cutaneous test. In the event of a negative reaction, entire reliance must be placed on other methods of investigation, for the patient may indeed be either definitely tuber-

3. Arch. Int. Med., December, 1910.

culous or may soon become so. But if the test results positively, concomitant with suspicious symptoms or signs, such a result is strong presumptive evidence of the existence of an active lesion. For, of patients who were followed for a considerable period, and remained well, only 1.6 per cent. reacted to the 1 per cent. solution. We do not mean that a patient apparently well, should be condemned to treatment solely because he reacts to the 1 per cent. eye test. But we do believe, on the evidence here furnished, that an individual reacting to the eye test, and especially to the 1 per cent. solution, even if the examination is otherwise negative, should remain under medical surveillance for a considerable time."

On the same point Sachs has this to say (January, 1911): "Sufficient evidence has not been produced so far to substantiate the claim that a positive conjunctival reaction signifies active tubercular disease. The possibility, however, exists that activity of a tuberculous process may be a factor in causing a positive local reaction with a minimal dose of tuberculin, under certain conditions of the power of response. Hence the failure of the conjunctival test in the clinically healthy and its uniform occurrence in the clinically tuberculous (barring the very advanced cases, etc.)."

My own experience bears out that of these observers. In so far as I have been able to follow the cases, and to study them satisfactorily, the great majority of those who have given a positive eye reaction to weak solutions (1 per cent. old tuberculin) have proved to be clinically tuberculous.

The von Pirquet test is the more sensitive of the two, in that it gives the larger total percentage of positive reactions and especially in those apparently healthy or only suspicious.

Herein lies its weakness, and indeed the weakness of all the tuberculin tests, but especially of the newer local tests. They prove too much. Granting that they are specific, in the sense that only those will react who have at some time been infected with tubercle bacilli, they condemn as tuberculous very many who are apparently in good health and fail to give any clinical evidence of tuberculosis or the need of special treatment. Hence their limited value in actual practice, and the necessity of using them only as a part of the diagnostic examination.

In children, however, they may have a more definite value, since in children latent or healed lesions are naturally not as common as in adults; and the younger the child the more significant would, therefore, such a positive or negative reaction be.

A child giving a negative tuberculin reaction after careful testing almost certainly is not and never has been tubercular. Conversely a child giving a positive reaction is almost certainly more or less actively and clinically tubercular. Von Pirquet himself lays far the greater stress on and assigns the greater value to the test in children than in adults.

As to the specificity of the local tuberculin reactions, depending as they apparently do on sensitizing of the tissues by existing or previous tuberculosis somewhere in the body, there is still some dispute. The exceedingly interesting studies of von Pirquet and Schick on "allergy" are most significant and tend to confirm the doctrine of specificity. So, too, do all the most carefully-made autopsy reports. Von Pirquet reports the demonstration of tuberculosis in 123 out of 124 children reacting to the cutaneous tuberculin test, and 161 negative post-mortem findings in 190 children with negative reactions. The percentage of the positive conjunctival reactions in the clinically tuberculous is given as 92 by Calmette (2,894 cases), 90 per cent. by Wolff-Eisner (435 cases), and 80 to 95 per cent. by numerous other observers. The percentage of the positive cutaneous reactions in tuberculous adults is given by von Pirquet as 90 (Sachs).

I shall not burden you by the quotation of further statistical tables. Suffice it to say that a study of them indicates, and the recently expressed opinions of authorities tend strongly toward, the correctness of the view that they are specific in the sense that only those react who have at some time been infected by tubercle bacilli. If, therefore, we make the logical inference from this doctrine, we are confirmed in the old teaching of the pathologists that most persons who reach advanced life have at some time been in some degree tubercular; and we realize again the truth of the old German saying: *"Jederman hat am Ende ein Bischen Tuberculose;* everyone has sooner or later a little tuberculosis."

Something now briefly on the technic of the skin test. It was customary for some time to use about a 25 per cent. solution of old tuberculin. Growing experience is leading many to use the undiluted tuberculin in ordinary practice, though there is good evidence that the strength of the solution does influence the rapidity and severity of the reaction. Perhaps, further investigation may enable us to make practical use of various dilutions for diagnostic and prognostic purposes. As to the prognostic import of the rapidity and degree of the reactions, not much can be positively stated at present.

There have been some beautifully plausible speculations along this line, but there seem to be so many as yet unexplained exceptions as to forbid the establishment of reliable rules. As yet we can only say that, in general, the reactions are likely to be prompt and distinct in active tuberculosis, and to be feeble or lacking in very advanced or moribund cases. There is some difference recognizable in the rapidity and degree of the reactions on different parts of the body, just why we do not know, and it is apparently not of much moment. It is well that a standard seat of the test should be adopted, as in the vaccination for small-pox, and this by general agreement is the arm.

The physician should always make and keep a record of tuberculin tests for future reference, just as in small-pox vaccination, and this is especially important in cases of the eye test, making note of the eye subjected to the test and perhaps enjoining on the patient to do the same. The hypodermic test should seldom, if ever, be used in one on whom the eye test has been tried within three months, certainly not unless the patient is to be within reach of close observation, for a "return-reaction" may be severe in the eye even though this eye has previously given a negative reaction.

In making the von Pirquet test the abrasion should be like that in small-pox vaccination, avoiding if possible drawing blood. It may be by shallow incision, scarification or scraping. An ordinary scalpel is sufficient. Special instruments are petty absurdities.

The solution should, as in small-pox vaccination, be allowed to remain in place for five to ten minutes at least. The simplest dressing or none at all need be applied, especially if the tuberculin has been allowed to dry. Control scarifications are usually made, but are now unnecessary since they prove nothing, but may become contaminated with the tuberculin and thus result in confusion.

Constitutional reactions have been noted in a few instances as a result of the local tests. At most they are but slight, since but a minute amount of tuberculin can possibly be absorbed into the general circulation. They have been dwelt on chiefly by such as love to hunt needles in hay stacks and are really unworthy of serious consideration.

There is no objection to making several of the local tuberculin tests at the same time. Opportunity may thus be afforded for interesting and possibly significant comparisons, and time necessary for repetitions may be saved.

The time element is occasionally of some importance and it is well, therefore, to remember that the eye reaction is likely to show most quickly, the von Pirquet next, the Moro last. The earliest onset of the three reactions, respectively, is about three, five and ten hours; the latest onset about thirty-six, forty-eight and seventy-two hours. The average time at which they become distinctly recognizable as positive is about six to twelve hours, twelve to eighteen hours and twenty-four to thirty-six hours, respectively. They fade in the same order of rapidity as their appearance, though the remains of the von Pirquet and Moro reactions may often be recognizable for several weeks or even months.

CONCLUSIONS

1. The tuberculin reactions, old and new, are real advances in pathology and constitute real additions to our knowledge of tuberculosis and its diagnosis.

2. They are both probably specific, in the sense that only those will react in characteristic manner who have at some time been infected with tubercle bacilli.

3. It is at least doubtful whether other diseases than tuberculosis will *per se* react to tuberculin.

4. All the tuberculin tests are most likely to be positive in the presence of active tuberculosis, but positive reactions from all of them may result from latent, encapsulated or healed lesions.

5. All, therefore, have the defect of being too delicate and of proving too much for clinical purposes, and are, therefore, not to be depended on alone for the diagnosis of clinical tuberculosis.

6. In children this defect is not as significant as in adults, because latent and healed tuberculosis is not so common in children. The younger the child the more nearly does this rule hold. Therefore, in general, the tuberculin tests are of more significance and clinical value in children than in adults.

7. All the tuberculin reactions may be feeble or entirely negative in very acute and very advanced and moribund cases, and in the presence of other acute infections such as measles.

8. A positive conjunctival reaction probably has some special significance in indicating an active lesion, especially if very weak solutions are used.

9. The hypodermic test is probably still the most reliable and most valuable one. It retains the available advantages of greater variability and accuracy of dosage, and of producing focal reactions when desired. The latter are invaluable in a limited number of cases.

10. All the tuberculin tests, discriminatingly applied, are practically harmless; yet the hypodermic and eye tests have possibilities of danger which are not to be ignored. The skin tests are entirely harmless.

11. Persistently negative reactions, with the exceptions already noted, are of greatest clinical significance. Positive reactions are always to be interpreted in the light of other diagnostic factors.

12. Finally, we must remind ourselves that under the spell of specific agents and the splendid contributions of the clinical laboratory, we are all a little too prone to seek short cuts in diagnosis. He who relies on the tuberculin tests alone as final in clinical diagnosis will be misled and disappointed. He who uses them with intelligent discrimination will, I am persuaded, find them not without real clinical value.

LOCAL USE OF TUBERCULIN IN THE TREATMENT OF OPEN OR SURFACE FORMS OF TUBERCULOSIS *

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DANVILLE, IND.

This paper is intended to be a preliminary report on the use of tuberculin in the treatment of open or surface forms of tuberculosis, and is a report of ten cases treated by applying tuberculin direct to the parts involved.

For the purpose of classification and distinction we will consider all tuberculous infections that are located on the surface of the body, or deep infections that have artificial openings on the external surface of the body, as open or surface forms of tuberculosis.

In this group may be considered infections of lymphatic glands near the surface, anal fistulas, sinuses resulting from non-closure of surgical wounds, sinuses that have resulted from tuberculous infections of bones, and lupus.

In considering this class of cases they are to be distinguished from the closed type, which do not have a direct channel of communication with the external surface of the body.

The first point to be accomplished in these cases is the making of a positive diagnosis. This is somewhat difficult. If the presence of the tubercle bacilli can be found by the microscopic examination of the exudate, this task then becomes easy, but it is seldom that the organism can be found. The history of the case, its duration and location are of great value. In a few instances I have applied tuberculin directly to parts involved, and if a marked local reaction occurred, it seemed fair to conclude that it was a tuberculous infection.

Recently I have had cultures made from the discharge to determine whether or not there is a mixed infection. This is done for the purpose of using an autogenous vaccine should it be indicated, but we have been unable thus far to demonstrate other pyogenic bacteria in the exudates examined.

Many methods of treatment have been advanced and used in the treatment of open or surface forms of tuberculosis, but still we see a great many of these cases that have extended over months and frequently years, and investigation of their histories will show that various treatment and agents have been employed at different times, and yet little or no healing has taken place.

We are all familiar with the local reactions that occur when tuberculin is applied to the skin for diagnostic purposes. In these local reactions we notice more or less intense congestion which is of short duration, and subsides without the establishment of degenerative changes in the tissues involved. In this congestion we have the resistant forces of the blood collecting and arraying themselves against the entrance into the system of toxins that are unwelcome to the host, and thus a barrier is raised against them.

The therapeutic dose of tuberculin, when introduced hypodermatically, causes tuberculous areas to become congested for a period of several hours, dependent on the size of the dose, the patient's condition and his susceptibility.

By the local application of tuberculin to open or surface forms of tuberculosis we can produce a similar reaction at the seat of the infection, and by careful observation and repeated applications we can maintain in the tissues involved a constant reaction by gradually increasing the strength of the solutions employed.

In this type of cases we have an impaired circulation due to the tissue change and destruction which has occurred. Consequently, there is a deficient blood-supply, and the parts are poorly nourished. These deficiencies are seemingly all corrected by the reaction to tuberculin when applied to the parts.

In applying tuberculin to such large areas as is frequently presented in some of these cases, great care must be exercised in order that the dose be not large enough to permit of enough

* One of the papers in the symposium on tuberculosis presented at the annual session of the Indiana State Medical Association, at Indianapolis, Sept. 28, 1911.

absorption into the system to cause a general reaction. If the dose should be too large in the beginning, the tissues may become insensitive and some difficulty may be experienced in producing subsequent reaction. Should this be done, healing would at least be greatly delayed. It therefore seems advisable that the initial dose should be very small, and it is always dependent on the extent of the area to be treated. The increase in the dosage, and the frequency of its repetition can only be determined by close observation of the extent of the previous reaction.

However, in infections of small extent, the dose may be much larger in comparison than in instances where a greater amount of tissue is to be treated, but when it is possible to use a large dose, we are able to produce a cure in less time than when smaller doses are used.

The parts are irrigated with normal salt solution before the tuberculin is applied, and if it is noticed that the tissues become less sensitive, increase in the strength of the saline solution seems to stimulate the tissues and cause them to react more promptly and severely to subsequent applications.

The tuberculin is applied by using a hypodermic syringe to spray the solution over the entire surface of the diseased parts. Where deep sinal tracts are to be treated a flexible cannula is attached to a hypodermic syringe. After the course of the sinus is learned the cannula can be bent in such a way that it can be made to readily follow the tract.

Advantage should be taken of gravity by placing the patient in such position as will aid in filling and retaining the solutions in the sinal tract. When the cannula has traversed to the entire depth of the sinus, it should be carefully withdrawn, and as the withdrawal is being made, the syringe should be slowly emptied of its contents. Enough of the solution should be used to entirely fill all openings.

It is necessary to have the tissues along the entire sinal tract react to the application of tuberculin. Not only must enough tuberculin be used to fill the entire sinus, but it must be retained for a sufficient length of time to establish a reaction. By instructing the patient to remain in one position and sealing the mouth of the sinus with collodion for several hours, we are able to cause a reaction of all of the tissues in the adjacent parts.

Twenty-four to forty-eight hours after the first application, a marked change is observed in the parts treated. The discharge, which has been of a mucopurulent type, is greatly lessened and is usually tinged with blood. Twenty-four hours later the discharge is thin and semi-sanguineous. The parts are greatly congested, tender and extremely sensitive. When a great amount of tissue has been subjected to the treatment, the patient experiences considerable pain and discomfort. If the local reaction is excessive, slight temperature elevation may be recorded. An examination shows that the cellular structure, which was of low vitality and very ischemic, has changed to the pinkish color of healthy tissue. New cell growth is greatly stimulated, and the formation of new tissue is exceedingly rapid. We have here manifested all the essentials in the promotion of healing. The wound is not disturbed except for the renewal of external dressings. Twenty-four to forty-eight hours later the severity of the reaction begins to subside. The parts are again irrigated with a saline solution, and an increased strength of tuberculin is applied. The treatment is continued and repeated as often as seems necessary until a cure is produced.

The following is a report of ten cases treated by this method. Attention is called to the fact that in eight of these cases, soft tissues only were involved. The remaining two were sinuses, the result of tuberculous infection of bones.

Case 1.—Suppurative tuberculous cervical adenitis of two years' duration; treated during this time by the use of various agents with no improvement. By repeated application of tuberculin, complete healing in twenty-eight days. Has remained healed two and one-half years with no evidence of relapse.

Case 2.—Suppurative tuberculous cervical adenitis, one and one-half years' standing, with no improvement. Repeated application of tuberculin, complete healing occurred by the eighteenth day. Has remained healed two years.

Case 3.—Tuberculous anal fistula of four months' duration. This case was operated on, but the wound failed to heal. Repeated application of tuberculin caused complete healing by the eighth day, with no relapse.

Case 4.—Tuberculous anal fistula, two months' duration. Case operated on, but wound failed to heal. Repeated application of tuberculin; complete healing on the twenty-first day. No relapse.

Case 5.—Tuberculous sinus caused by the non-closure of surgical incision of abdomen; six weeks' duration; treated five weeks. Complete healing of sinus. In this case, scar tissue formed around the sinus, leaving a patulous opening which later was corrected by second surgical operation.

Case 6.—Tuberculous sinus, the result of non-closure of surgical incision of abdomen. Duration, six weeks. After two weeks' application of tuberculin, complete healing. No relapse.

Case 7.—Suppurative tuberculous cervical adenitis of one month duration. Two local applications of tuberculin were used; complete healing within ten days. No relapse.

Case 8.—Tuberculous sinus, of ten months' duration, extending from the distal extremity of right clavicle

to outer and upper border of sternum. In this case a skiagraph showed that a part of the clavicle had been destroyed. At the beginning of the treatment it required thirty minims of the solution to fill the sinus. At the end of sixteen days 5 minims would completely fill the tract. Patient was returned home with instructions to his physician that the treatment be continued as long as the sinus would remain open, in order that the osseous structure may be given more time to heal. There is every prospect that a complete cure will be attained within a short time.

Case 9.—Tuberculous sinus of three years' duration, the result of tuberculosis of the hip joint. This sinus has a depth of four and one-half inches. Patient is now under treatment. Four applications of tuberculin have been made. Severe local reactions have been produced. Discharge within one week has changed from thick caseated material to a thin liquid of a semi-sanguinous nature. A future report of this case will be made.

Case 10.—Is a report by Dr. Jewett V. Reed of a case treated upon the suggestion of the writer. His report of the case is as follows:

Female, age 22 years. Past history, tuberculosis of metatarsal bone of the great toe of the right foot. Complete recovery following the removal of the diseased bone combined with hyperemia and B. E. injections.

On March 1 a painless serous effusion appeared in the right olecranon bursa. Patient refused operation.

On April 3 the swelling showed signs of acute inflammation, the result of infection, with a pyogenic organism. An incision one-fourth inch was made and a quantity of thick pus evacuated. With drainage and cupping the acute inflammation subsided in about a week, leaving a flat cavity about one inch in diameter, from which a large amount of serous fluid, containing a small amount of caseous material was discharged. The edges of the incision assumed the typical appearance of the opening of a tuberculous sinus. The cavity was injected with various iodin preparations and pure carbolic acid without results.

On July 3, three months from the date of the incision of the bursa, the local application of tuberculin, according to the suggestion of the writer, was tried.

On July 7, four days later, the cavity was entirely obliterated, a superficial ulcer alone remaining. A dry dressing was used.

On July 10 the wound was covered with a dry scab and July 12 the scab came away, leaving a perfectly healthy skin, and the site of the cavity showed only a slight thickening. At the present time (July 20) there has been no return of the trouble.

In the eight cases in which only soft tissues were involved, we find that they had extended over periods from one month to two and one-half years. Various treatments had been used without the production of a single cure. By the repeated local application of tuberculin, complete cures were had in each case. Another feature of the report is the fact that these results were produced within ten to thirty-five days, and that in some instances two and one-half years have elapsed without a recurrence in a single case.

The value of this treatment in osseous involvement is yet to be determined, but from what has been observed in the two cases reported, it is reasonable to expect good results in this class of cases.

It is hoped that this method of treatment may be employed more extensively in order that its value and limitations may be determined by more extensive observation.

DISCUSSION

of Papers on Tuberculosis by Drs. Roswell T. Pettit, Theodore Potter and T. J. Beasley.

Dr. W. T. Dodds (Indianapolis): In discussing these excellent papers on tuberculosis and tuberculin, it is hard to imagine where to start. Dr. Potter has left no open ground on which to attack him (he never does), and Dr. Pettit has covered his subject well. There are many things, however, that we can say relative to the use of tuberculin in the treatment of tuberculosis, and one is that tuberculin is a poison and a very powerful poison. The second thing is that as a rule it is used in enormously large doses,—too large for the safety of the patient. In the third place, the tuberculin used is frequently inert, and, when the dilution is distributed, there is no reaction. In other words, if the tuberculin used as an injection is potent, the dose recommended by our pharmaceutical laboratories is too large and is dangerous. The solution of our great Mulford house should be divided perhaps four times, and if the clinician used the serial solution up to six, for instance, a potent, fresh dilution, he is likely to get into trouble. I do not believe that tuberculin is a safe agent in the hands of one who is not constantly using it. I believe our patients will be better off without tuberculin than with too much tuberculin, because tuberculin is a specific poison and has great power of doing harm. In minute doses, however, with selected cases, in the hand of one who is careful and who understands what he is dealing with, it is an adjunct to the treatment of tuberculosis worthy of a place in our considerations.

Tuberculin has several results. First, almost invariably we find that our patients do not relapse so readily after administration of tuberculin; second, we find that they improve more quickly; third, the temperature does not run so irregularly.

There are several indications that tuberculin should not be given. Cases you cannot control; ambulatory cases; cases of second and third stage consumption; in distinct myocardiac involvement, and of course in tubercular manifestations in the meninges.

The best tuberculin to use, to my mind, is a good tuberculin of any make, freshly diluted and of known quality. I prefer Koch's tuberculin made in proper dilution.

I wish to repeat that tuberculin is a dangerous drug, and its possibilities to produce harm are really greater than its possibilities to produce good, in the hands of careless administrators.

As to the diagnostic value of tuberculin there is no question. It is specific, it will react always if there is sufficient machinery left in the organism to produce a reaction. Of course if the machinery is worn out, if

the tissues have no longer the power to produce antibodies, you will get no reaction and no results.

The best method of administration of tuberculin, to my mind, is minute doses hypodermatically.

Of greater importance, I believe, in the treatment of tuberculosis, are the autogenous vaccines. The tubercle bacillus itself does not kill the individual, as a rule, because if it did 90 per cent. of us would die, as nearly all show healed lesions. It is the secondary invader that gives the great mortality. Autogenous vaccine made from sputum certainly is of value and is harmless. A properly-made vaccine in a proper dose will produce no harm, if it produces no good, so we are safer here than with tuberculin.

Another thing, this last winter I was able to produce immunization against influenza. The patient lived in a family that had influenza during the winter. But start out in the fall with a known toxic influenza bacillus, and you can immunize your patient. You give the patient an influenza every two weeks that lasts over night. These autogenous vaccines, in addition to producing immunization against influenza, relieve the septic condition of the patient, moderate to a certain extent night-sweats, abolish chills, reduce temperature, and increase the general well-being of the patient. I do not believe it is possible to cure a second-stage case of tuberculosis in this climate without the use of autogenous vaccines, and I believe they will come more and more into use. (Applause.)

Dr. W. A. Gekler (Rockville): I will allow myself to discuss the second paper first and then go to the other two.

Tuberculin diagnosis in an adult is deemed valueless on account of the fact that it has been shown that 90 per cent. of the people are tuberculous. These figures were made abroad, but the hygienic conditions are practically the same as here, and as we have no evidence to the contrary or to support, we can accept the figures for our country as well. For that reason in persons over fifteen years of age I never use tuberculin for diagnosis, especially pulmonary tuberculosis. The diagnosis should be made a physical diagnosis. Certain signs indicate tuberculous lesions and nothing else, and subjecting the patient to tuberculin reaction is unnecessary. Focal reaction of the lungs is dangerous. The constitutional reaction of tuberculin has been dropped by many men abroad.

So far as the value of tuberculin treatment is concerned, Dr. Pettit has summed this up very well. His figures give everything that has been done up to date.

As to the opsonic index in tuberculosis, it has been dropped by the men who did the most work with it. On the average it has been conceded that the opsonic index is valueless, for the reason that the leukocytes are not concerned in the infection.

So far as the specificity is concerned, the last word has not been said by a long way. In veterinary practice it has been a rule that positive tubercular reaction means lesions. Raymon told me he was in Buenos Ayres and administered tuberculin, the patient reacted, and he spent two days looking for the lesion and when found it was no bigger than a pinhead. So by proper search you can always find it. Up to a few months ago it was thought that tuberculin was a specific for tuberculosis. In other words, the individual must have come in contact with the tubercle bacilli at some time or other to react with tuberculin. We have no way of distinguishing between the active and healed lesions, but one experimenter has been able to inject carefully selected tubercle bacilli into guinea pigs and make the guinea pigs hypersensitive to tuberculin. Something more, he has also been able to show, that these injected guinea pigs in most cases do not die. But you cannot find a trace of living tubercle bacilli if you dissolve the whole guinea pig in formalin.

The problem of immunization with tuberculin is this: Everybody does not respond to tuberculin treatment with antibodies sufficient to do the work. Sometimes they respond with more albumin antibodies, or more lymph antibodies. Very likely the lack of invariable success in tuberculin rests on the fact that you have a combination of antibodies instead of one, and when one of these antibodies is lacking the immunization will not be complete. The immunization of the guinea pig is something that has not been done before, and it means tremendous progress, because if we can employ it in human subjects we have here a vaccine which is harmless and which when given to children will protect them against the tubercle bacilli. In these animals at the end of twelve hours you could not find the bacilli; they were entirely gone. In tuberculous pigs the experiment takes longer—two or three weeks. These experiments have been tried many times with the same results, and have been conducted with a degree of care which render it very probable that they will hold good. Of course the last word has not been said yet.

As to the treatment of surface lesions with local application. It has been held in tuberculin treatment that where possible tuberculin should not get to the lesion. Theoretically I can see an objection to local application of tuberculin for surface lesions; empirically it may work. But I am puzzled to understand the success of Dr. Beasley. I am curious to know about the dose he uses.

Dr. Beasley: Ten milligrams; any single dose depending upon the size of the surface to be treated.

Dr. Gekler: The principle of tuberculin action is small doses to avoid reaction, but Dr. Beasley uses an almost brutal dose and still is successful.

Dr. L. F. Schmauss (Alexandria): I heard Dr. Potter's paper before, and I never enjoyed a paper more. There are several things I would like to have him bring out. In the first place, how are we to know we have a reliable product; in the second place, how do we know we have a reliable product weeks and months after we get it, taking it for granted that it is reliable when we get it. I find that even Mulfords do not know how this tuberculin should be kept, whether in a refrigerator or in ordinary room temperature. I have had very different effects with it. For instance, in a case of suspected tuberculosis of the kidneys and bladder I had practically no reaction. Six weeks later I was requested to give another treatment, and had tremendous reaction.

I would also like to ask Dr. Potter how far we should go in focal tuberculosis when there is also pulmonary tuberculosis present. I had a case of incipient phthisis, and after injection there was very excessive dissemination into the lungs.

Another point is in regard to the immunizing doses. The doses here run all the way to ten milligrams.

As to Dr. Beasley's paper, which is very interesting, I would like to know how often the treatment should be repeated, whether we have reaction or not.

Dr. Pettit (closing): With regard to tuberculin in the diagnosis of tuberculosis, I have little to say, except that I hardly think this is the place to state that the tuberculin reaction is valueless, in view of the clinical experience we have had in its use and the large number of cases that Dr. Potter has presented. Therefore, I wish to take issue with Dr. Gekler in stating that the tuberculin reaction is of no value. I think that is a rather dogmatic statement to make considering the large amount of information we have concerning its value in the diagnosis of tuberculosis.

I agree with Dr. Potter that the constitutional reaction is the diagnostic one, and the focal is secondary. However, I would not go as high as ten milligrams. I would rather place the limit at five.

In regard to Dr. Beasley's work, it is very similar to the experimental work being done by Dr. Gerald Webb in immunization. And while his work has been entirely upon animals, it is along the same line as Dr. Beasley's. Dr. Webb has produced tuberculosis of the lungs in rabbits, and then injected the tuberculin directly into the lung. The results are not yet known.

In regard to what Dr. Dodds had to say as to the safety of tuberculin therapy. Tuberculin, in the hands of one familiar with its use, its action and its factors, used in small doses in properly selected cases, with known strength of solution,—is of value. The hit-or-miss method of using tuberculin, the use of serial dilutions which have deteriorated more or less, is to be deprecated, and tuberculin under these conditions is by no means a harmless agent, but is capable of producing a great deal of harm.

Tuberculin is by no means a specific for tuberculosis. It is an adjunct to our other methods of treatment that gives us an advantage of something between 15 and 20 per cent.

Dr. Beasley (closing): The two papers that preceded mine were very excellent, and only confirm the reports that are continually being made along the line of the usefulness of tuberculin in the diagnosis and treatment of tuberculosis.

Referring to my own paper, in answer to Dr. Gekler's remarks, I do not consider this the time or place to discuss the theoretical features that take place in the local reaction with tuberculin. It would be presumptuous for me to do so, in view of the limited number of cases treated. This paper is merely a report of a limited number of cases.

A gentleman asks regarding the dose. I stated in the paper that the dose depends upon the area to be treated. I stated that in instances where only a small area is to be treated, such as a small gland which has broken down, the procedure has been to make a small incision which will evacuate the pus and then fill that with a weak solution—in no case more than ten milligrams. We always aim to avoid general reaction.

CUTANEOUS BLASTOMYCOSIS

THE TWELFTH CASE TO BE REPORTED FROM INDIANA

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In reporting this case it is done as a reminder of the fact that while the disease is a rare one, it is an occasional visitor, and may occur in the experience of any surgeon. Undoubtedly there are other cases in the state that have been observed and treated by excision and perhaps cured, without a correct knowledge of the cause of the infection.

When we think of blastomycosis and look up the various references on the subject, we take pride in knowing that Dr. Brayton of Indianapolis has contributed much to the early knowledge of the disease. Since 1894 when Gilchrist first reported the disease as a separate entity, caused by a specific yeast fungus, it is probable that some two hundred cases have been reported. Chicago observers are credited with discovering more than from any other locality, next in frequency being California and the third locality, in point of number of infections, according to Dr. Brayton, is Indiana, and he is responsible for the diagnosis of most of them.

In 1904 a case of skin disease went from Anderson to Indianapolis for treatment, and the diagnosis of blastomycosis was made by Drs. Brayton and Dodds. The area involved so much of one leg that the limb was reported to have been amputated afterward. I am unable to locate this patient or find out who his physician was in this city, and so can give no more information concerning the case than has been given by Drs. Brayton and Dodds, in the Transactions of the Indiana State Medical Society for 1907-1908.

Dr. Brayton's Case No. 7, referred to him by Dr. Simpson of Romney, Ind., was a girl 10 years of age, and at that time was the youngest patient reported as having the disease. Since then, however, Varney of Detroit has reported a case in a baby 6 months old, and Kessler of Iowa City, Iowa, has reported one in an infant 5 months old.

Drs. Hektoen and Bevan in Chicago have reported a number of cases of the infection, producing a systemic disease and death, while Drs. Hyde, Montgomery and Wells added much to our knowledge of this still comparatively rare disease.

A short résumé of the disease as we know it now, is as follows: Blastomycosis is a local or generalized infection caused by the growth in or upon the skin of a specific yeast fungus. The fungus belongs to the class of organisms producing the diseases classified as fungi, and nearest related to the actinomyces. Pathologists place all these allied chronic infections in the infective granulomata, but while the clinical history of many of the syphilitic, tubercular, leprous and other granulomata are allied, their specific causes are not directly related. The primary infection of blastomycosis is supposed to be always a superficial one, on or in the skin, and the duration of

the disease is as indefinite as syphilis or tuberculosis. It may run an apparently benign course as a trivial local lesion for years, or rapidly be succeeded by a generalized systemic infection and death. In these latter cases the post-mortem findings are so like tuberculosis, that the gross pathology of the two diseases has been confounded by good observers.

The age of the majority of the patients reported as having the disease shows that it is usually one of middle life, and men are more frequently affected than women. The disease may occur at any age, however, as instanced by the above-mentioned references to patients of Drs. Varney and Kessler.

When observed, the first evidence of the infection is a split-pea sized nodule that slowly breaks down and later ulcerates, the transition period resembling a fungating papillary growth. Often there is an accompanying discharge of an offensive mucoid material which crusts over the lesion. The blastomycetes can be found with a one-sixth lens in this purulent discharge, on the addition of a little liquor potassi. They are seen as doubly-contained refracting budding bodies. The lesions usually multiply as the patient inoculates himself. The general aspect "is that of a scrofuloderma with papillary growth." In the larger areas there are always islands of new tissue that have succeeded the ulcerative processes, and in the old standing cases the same small area may ulcerate and undergo resolution with regeneration of islands of new skin, several times. My case, reported below, shows this most beautifully. The configuration of the ulcerated area has changed variably during the five years she has been under my observation.

The outcome of these cases is uncertain. Some get well under local treatment. Some have been cured under combined surgical and medical treatment, saturation with the iodids having a marked effect in all, as first shown by Bevan. Some have responded to the effect of the x-ray better than to any other treatment, while others progressively change from a local to a general systemic process, with ultimate death in spite of all remedial measures that can be instituted.

The history of the case here reported is one dating back over a period of five years, when the patient was sent to my clinic for amputation of the leg. At that time she was 41 years old, married and had had four children. The family and personal history were negative. There was no history of association with any person having a similar sore. She stated that early in 1906 she saw a pimple on her left leg near the ankle. It gave her no special trouble and she gave it no particular notice until it developed into a small ulcer. This was followed by the appearance of other adjacent similar pimples that became pustular and broke down into small ulcers. The extension of the infection was by contiguity, and the history shows that the entire infection has been limited to the one locality.

On examination, June, 1907, I found the limb and foot swollen, the ankle movable, but over and above and extending up 5 inches from the ankle and encircling the leg was a peculiar looking sore. It seemed to be a series of ulcerations joined together. The margin of the sore was clean cut and punched out. Scattered through different points of the ulceration were small areas or islands of apparently normal skin. Besides the islands of normal skin and the gradually extending ulcerative process at the periphery, there were

various areas of thin white scars that had succeeded the destructive process and been followed by scar formation instead of skin regeneration. Other than the edematous condition of the foot and leg and the gradually increasing disability from this, there was no fever, no blood changes and little or no systemic disturbance. A probable diagnosis of blastomycosis was made and scrapings were sent to the State Laboratory, where cultures were made and my diagnosis verified.

The patient was sent to the hospital, given an anesthetic and the infected areas thoroughly curetted and then cauterized with Harrington's solution. A moist dressing was applied and every day the margins and active areas were touched up with the same solution. Patient was

kept in the hospital for five weeks, at the end of which time the ulcerated areas had healed with the exception of two or three isolated patches not an inch in diameter. The patient having grown tired of the hospital, she refused to stay longer and against our advice and desires, she went home. She was given a quantity of Harrington's solution and promised to use it faithfully as we had been doing. Over the regenerating areas of new skin I kept gold leaf, which seemed to have not only a protective but quite an antiseptic action. After the patient left the hospital, I saw her several times at her home, but the surroundings of her household were not conducive to progress, and there was no improvement in the remaining areas during my observation of her case at her home, which covered a period of several weeks. Then I lost track of her for over a year. Seeing her again on the street one day, she informed me her leg was worse again, but nothing like it had been when she had gone to the hospital. I tried to get her to go back again, but she refused. She promised, however, to let me get a photograph of the leg, which a few days later I secured and which accompanies this article.

The photograph is a very good one and shows excellently the extent of the original sore. It also shows the margins of the wound and the islands of new skin, as well as the thin scar-like patches scattered over the healed portion. The black spots in the apparently healed portion are small ulcers, and when I first saw the limb the entire area that is now shown to be closed in, was involved in a definite ulcerative process, as marked as the ulcerations shown above the ankle in the picture.

Several times in the past four years I have spoken to this negligent patient and in March, 1911, she came in to see me, as the leg was giving her quite a little pain at times. She consented to appear before the Madison County Medical Society and on March 24, 1911, Dr. Brayton came to Anderson and, with the case as a clinic, favored the members of the society with a clinical discussion of the disease. Dr. Brayton took scrapings and smears home with him and reported to me the presence of the blastomyces in great abundance.

At this time the condition of the leg is little changed from the condition of four years ago. Some areas of the old ulcer have healed and some of the new tissue has undergone ulceration. She refuses to undergo further treatment unless the leg gets much worse, and then she says she "will have it cut off." During my active treatment of the disease at the hospital, she was given the iodids in maximum doses. I believe the leg would have healed had we been permitted to continue our treatment at the hospital, but the case is now one of expectancy. Possibly in the near future it may be my experience to study its progress further, as one of a generalized infection.

The following is a list of the known cases reported from Indiana. No. 1, a man over 60, referred to Dr. Brayton by Dr. Kemper of Muncie, shortly after Gilchrist's first report concerning the disease. Patient cured by excision of the infected area.

No. 2. Case of Dr. Robert Hessler of Logansport. Adult male, 1898.

No. 3. Dispensary case in Indianapolis, man of 50, diagnosis made by Dr. Brayton, 1898.

No. 4. Patient of Dr. Lowder of Bloomfield, Ind., man aged 60, referred to Dr. Brayton and diagnosis made in 1901.

No. 5. Adult male coming to Indianapolis from Anderson to Dr. Dodds and seen by him with Dr. Brayton in 1904.

No. 6. Indianapolis patient of Dr. Brayton, woman aged 27, cured by curettement and cautery.

No. 7. Girl of 10, patient of Dr. Simison of Romney, Ind., referred to Dr. Brayton, 1907.

Nos. 8, 9, 10, 11 were cases observed by Drs. Rilus Eastman and Victor Keene in Indianapolis in 1904. The cases were reported in the *Annals of Surgery*, November, 1904, but were not type cases. The infection if present was secondary to a pyocyaneus septicemia, and the first case was succeeded by infection of three others in the same family, the infection producing multiple abscesses, from which a yeast fungus was cultivated.

No. 12. The case above reported by me, and now under observation over five years. Patient referred to me by Dr. John Armington of Anderson, Ind.

ADDENDUM

Submitting this paper to Dr. Brayton, he kindly writes me as follows: "Dear Dr. Austin: I have one case of ten years standing, now under observation in a man of 54 with ten healthy children. He has been under treatment in Indianapolis two years. The lesions have traversed the upper third of his chest involving the face, the sides of the neck, and causing ectropion of both lower lids. His head is pulled down by the scar-tissue of the chest and neck as we see in hot-water scalds in this region. He has a large scar, forming a band 6 inches wide round his ankle, similar to that of the woman whose case you have described above. Ten years ago the first patch appeared on his wrist and was cured by an arsenic paste, leaving a good scar. This patient

has always responded well to the use of 2 ounces of potassium iodid, taken each week, 50 grains three times a day in water after meals. He has taken nearly 10 pounds in the last year and a half. Whenever he has left off the iodids he has relapsed. For the last six months he has been given the *x*-ray treatment once or twice a week by Dr. Lindenmuth of the clinical staff of Bobb's Dispensary, with most excellent results, but has continued the iodid of potassium and on his leg he has used the U. S. P. iodin ointment, thoroughly binding it on with oiled paper and roller bandage. I am assured the best treatment for cutaneous blastomycosis is potassium iodid combined with the intelligent use of the *x*-ray, as has been given by Dr. Lindenmuth in this case.

"The patient withdrew from the clinic over a year ago and was treated for three months by strong heat and light from a powerful electric lamp, without any improvement. It was indeed detrimental as the infection involved the cheeks and caused the ectropion under this negative treatment."

SOME COMMON ERRORS IN THE TREATMENT OF MENTAL DISEASES

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Medical knowledge is changing so rapidly now days that it is very necessary for the doctor to stop frequently, sum up the new facts, discard many of the old, and then to proceed according to the revised condition of affairs. In fact, the doctor who does not follow some such policy as this will soon find himself so far behind that he will be hopelessly lost, and unable to treat his cases or to understand his professional acquaintances who are keeping up with the times. Realizing these facts most practitioners make strenuous effort to keep their ideas and practices modern and according to the best and latest teachings.

But while the changes made in surgery, gynecology, general medicine and nearly all other branches have been recognized and followed by the profession at large, scant notice has been given to the momentous studies made in the treatment of mental diseases.

Just why this is the case I cannot say. It certainly is not because changes worthy of note have not been made; because both clinically and experimentally some of the most startling and essential facts in modern medicine have been produced in this line of work. It is not because of lack of material, for with 394,000 legally committed insane individuals and possibly a million uncommitted and border-line cases scattered in every state, county and village of the whole United States no professional man can claim that he does not see these unfortunate individuals. It is not because we lack opportunity to study them, because there is no set of individuals whom we have more entirely in our care, than those legally committed as insane and placed in our state asylums. It is not because of unwillingness on the part of the subject, for thousands of these poor individuals come to us every year, begging to be relieved of their distress and willing to submit to anything that we propose that has the slightest hope of regaining for them their reason. The fault seems to be within ourselves. Until recently but few medical schools gave a course in mental diseases, which was worthy of the name, and even now it is rare to find any really training their students to this line of work. Then, too, we have had brought to us by heredity some peculiar notions relative to the mentally-deranged.

While we have loosened the shackles which held us from benefiting other classes of cases, we still retain much of the old fogyism and fear of medieval times when considering the mentally-deranged. We still feel that these unfortunates are possessed by some condition which we have no power to meet. We brush them aside and leave them in the hands of the clergy, the quack and the jailer; or treating them, we follow procedures so old that were we to use the teachings promulgated at the same time for the treatment of typhoid fever, for instance, we would stand with fear and trembling lest we be caught in the act and classed as back numbers.

It is high time that we arise to the occasion, that we throw off our lethargy, wash from our eyes the mists of the past which obscure our best perception of the present and come to these patients with hands prepared to administer the measures which present knowledge has found so beneficial. It is with the view of assisting in this great awakening that I wish to present here a few of the commoner errors into which we are falling.

One of the most common errors in the treatment of cases of this kind is not to treat them at all. If we see them early in their trouble we oftentimes tell them to "forget about it," to "get out in the country and work" or "to take a

trip." and if we see them late, after they have developed maniacal, senile or imbecilic symptoms, we railroad them into confinement and place a stigma on them which too often can never be raised, although they may, within a short time, regain absolutely their reason and be just as capable and useful citizens as any of us. There was a time when an individual becoming insane could really and honestly be placed in a house of detention, because then that was the best thing to do. This time, however, passed at least 200 years ago, and certainly does not exist now because the statistics coming from the best public institutions show that a large percentage of these cases get well, many of them without any kind of treatment whatever. And the statistics coming from the best private institutions where these cases are thoroughly treated, show that by far a large percentage of them are curable, absolutely and positively. Some institutions go so far as to state that 90 per cent. of them can be put back into the world again as useful citizens.

The truth of the matter is that, with what little is known at the present time, these cases are probably as amenable, if not more amenable, to treatment than many of the disorders which we are constantly meeting and gladly treating. It behooves every one of us then either to begin active treatment with every mental case that presents to us, or to place them in the hands of those who can actively treat them, just as rapidly as possible.

And when I say treating these cases, I mean to treat them as their condition demands. In the beginning many are amenable to drugs and could be halted by a judicious use of them; but owing to the fact that the condition is not readily diagnosed in its beginning stages, many become far advanced before even a suggestion of their being diseased is given. Then, drugs are of but slight avail. We must rely on other measures, massage, electricity, hydrotherapeutic measures, work, intelligent exercise, careful feeding and psychical suggestion. These measures should not be applied sporadically, however, or in a haphazard fashion, but they should be carefully arranged and vigorously and continuously carried out.

Another serious error is to delay the beginning of treatment too long. This probably arises from the fact that the relatives and friends of the patient are slow to recognize, or loath to recognize, that he is really deranged; consequently the doctor's hands are tied and he has but little opportunity to treat the trouble when it is the most amenable to his remedies. Then, too, constantly associating with the patient we little realize the small peculiarities which are coming into his life, and which are the straws that indicate the storm that is beginning to blow, and are not aware of the conditions until some marked aberration leaves no doubt but what we are treating a mentally-deranged person.

We should always be on our guard for little peculiarities in the lives of our patients. We should keep them in mind, weigh them with the same seriousness that we weigh changes in temperature, pulse and respiration. While it would be a serious matter to err in classing one mentally-deranged when really he was not so, it is just as serious to allow those who are deranged to go untreated. Statistics show that most patients coming under treatment within the first year of the disorder, make rapid and satisfactory recovery; while those whose treatment has been delayed till later periods, prove stubborn and oftentimes hopeless. It behooves us then to recognize our cases early and to begin those measures which will bring recovery long before the disorder has had a chance to fasten itself permanently on their mentality.

The failure to diagnose cases is another serious error. This applies to the diagnosing of them as mental cases and to diagnosing the cause of the mental aberration. Mistakes in this line are very excusable. In the first instance because the public at large is prone to overlook many of the peculiarities presented by the mentally-deranged, and to call the doctor only after they have become maniacal and so obstreperous that they cannot be taken care of as ordinary individuals.

In the second case excuses are also to be granted, owing to the fact that as yet we have but little idea as to the exact cause of many mental disturbances. But regardless of these facts we are constantly overlooking and trying to forgive conditions which we know are harbingers of serious troubles. A few weeks ago we had brought to us a young lady who had shown some melancholy tendencies. Her husband said when he came that the family doctor had advised that she be taken away for treatment for a couple of weeks. After ten days' stay with us the husband came to visit her, and finding her, as he said, so much like herself, he thought he would take her home. When we explained to him that it would be absolutely impossible to have cured an individual in so short a time, he said he could not

see anything wrong with her and that he would take her away. Just a week ago I read in the paper that she had committed suicide by hanging herself. Certainly it could not be said that this person was mentally right, still none of her associates were ready to class her as mentally deranged.

In diagnosing the cause of mental derangement do not fail to look to conditions away from the brain. There is scarcely a day passes but what we have forced on us the fact that many, by far the larger majority of mental disturbances, are caused by conditions which only act on the brain indirectly. It would take too much space to even enumerate all of these conditions here. A few illustrations will suffice.

A school girl is brought to us, screaming and raving, absolutely uncontrollable. We find her circulation congested, her blood-count showing nearly 7,000,000 red blood-corpuscles; her bowels constipated; her mentrual periods checked. Copious enemas, measures to bring about the menses, tonic baths, cold packs at night, pleasant mental occupation and within a few weeks she is mild-mannered, gentle and entirely herself.

A young man 30 years of age comes in raving, in fear of everyone and everything about him and believing that everything he comes in contact with is charged with electricity. He has not slept for nights, is constantly on the go, is always wishing to ask some question which he never quite broaches. A neutral bath, a few sedatives and he has a good night's sleep, feels better and within three or four days has lost all of his maniacal symptoms, although he is still considerably worried. Careful search reveals a chancre under the foreskin, and instantly when it is discovered, relief comes to him. We find that he has been a quiet drinker of liquor, and that when he tried to stop it or that his supply had been cut off, he became nervous. His worst symptoms were due to this condition alone. He had also found the chancre, became greatly worried, and that added to the other trouble, had produced his mental derangement. He is soon relieved of all desire to drink, put on the best hypodermic treatment for the syphilitic infection, is assured that everything is being done for his welfare, that under that line of treatment it will probably be possible to allay his disorder or to minimize its ravages and he ceases his worrying at once. And so on the cases could continue, all proving conclusively that we must change our present attitude of reluctance to diagnose one as mentally deranged, for an attitude where we are constantly on the lookout for such conditions as this, and that we must dig deep into every case of this kind to find at least the exciting cause, and then to institute measures which will remove it.

Giving all those deranged heavy doses of bromid, chloral, morphin, opium and the like, is also a serious error. There is no doubt but that these measures are exceptionally beneficial, and ones which we must always keep in our armamentarium when treating this class of cases. But they are also dangerous weapons, which from their very efficacy make it an easy matter to overuse them.

Most of the overdosing in this regard is not directly the fault of the doctor. While the etiology, diagnosis and history of mental disorders have been played up heavily in the text-books on this subject, scant attention has been given to the treatment. If you will begin with the early text-books and follow them down consecutively to the present time, you will find that much of the treatment has been copied verbatim, and excepting for a few master minds that have really grasped the situation, the present-day authors present and offer as treatment the very same things that were offered fifty or sixty years ago. Take the bromid treatment for instance. There is scarcely a text-book that does not advise this drug in numberless mental disorders; all in fact that present maniacal symptoms. Still we know that bromids long-continued with cases of this kind, become a cause rather than a cure for the trouble.

Many individuals who began taking bromids when they were disturbed, have gone through their early mental derangement and cannot quit the bromids because whenever they try to do so, they find themselves becoming desperately nervous again. Still if they are kept at it long enough and if suitable measures are instituted while the drug is being withdrawn, they eventually make complete recoveries.

The same is true of the morphin treatment of mental diseases. There is no doubt but that morphin is an essential drug in this line of work; that it should always be at hand when treating this kind of cases, but it should also always be used with the greatest degree of intelligence, and never for any great length of time.

Sulphonal, trional and the like also fall into this class of overused drugs. Just recently we had come to us a young woman, who through her work had become exceptionally nervous, sleepless,

and incapable of continuing her occupation, because she was so forgetful and did such peculiar things. She bewailed the fact that sulphonal, trional, medinal and several bromid preparations would not put her to sleep. She was placed in a thoracic pack and slept all of the first night and has continued to do so almost without interruption nightly, although it has been weeks since she left our institution.

I have repeatedly seen maniacal patients whom large doses of hyosein, morphin and cactin would only quiet for a short time, sleep for hours after being kept from 20 to 30 minutes in a neutral bath, or a tonic bath. Mind you, I do not wish it to be understood that I do not realize the usefulness of nor use the drugs before mentioned, because I think they are necessary to every practitioner handling this class of cases, but I do wish to emphasize the fact that they must be used judiciously, in small quantities and for short lengths of time. If hydropathic measures will not control the case then we must resort to the drug line, but never continue the use of one drug for any great length of time. Alternate them, change them back and forth so that the individual will not become addicted to any one kind, and while you are doing this continue the hydropathic measures until the desired results have been attained.

Another serious error which the doctor is oftentimes called to commit, is the giving of advice to the one in trouble. All forms of this error simmered down to final extract show three ideas behind them.

First. "Forget all about it."

Second. "Go take a trip."

Third. "Get out and work, see something new." The next time you are greatly worried and disturbed over some matter, find a friend who will tell you to forget all about it, then you will realize the position of the mentally-deranged individual to whom you gave it.

While it is seemingly true that we can forget many of the worries and cares of life, I doubt it. We either reason them out to some definite conclusion, they are solved and consequently cease to be worries; time serves to smooth their sharpest and most aggravating angles; or in the stress of occupation they are submerged by other ideas; seldom they are really and truly forgotten. The psychologists tell us and the histologist, pathologist and anatomist bear them out in their conclusions, that all perceptions coming to our brain are stored, and that if our reproducing apparatus were keen enough, we could call back happenings of years gone by, which in our present state we say are forgotten, but which are really only swamped and hidden away by new perceptions which have come to us. This, being the fact, our advice to our patients to "forget it" is absolutely useless, because it is impossible for them to accomplish it. If we must say something we should say "replace it," because it is just as true that two ideas cannot be expressed in the brain at the same time, as it is that two objects cannot occupy the same space at the same time.

Clinically, we find that by "replacing" ideas, we succeed, while in "forgetting" them we do not. In fact, because this is true is the only excuse we have for giving our patients the other advice to "take a trip." In this instance we think that if the patient gets away from home and his home surroundings he will have new things to think about and that the old ideas will slip away. Our reasoning so far is good. Practically all cases of mental derangement, however, have other disorders. Many of them racked by loss of sleep, poor appetite, bad mastication of food, poor elimination of the waste products of the body, have so disturbed their metabolism that they are greatly weakened; consequently travel becomes a serious matter to them, and while in a way it serves to place new views and sounds about them, it only goes to undermine their general physical condition and eventually will aggravate their trouble.

Just recently we had brought to us a leading business man of our state, who, becoming nervous and incapable of attending to his business affairs properly, was advised to go to Atlantic City. After two weeks' sojourn there it became absolutely necessary to place him in some institution where he could be kept in confinement, because he became a danger to himself and to his family. When we first saw him he would not hear to anyone having anything to do with his affairs. He was threatening and had attempted to carry out some of his threats on those about him; yet in three days he had quieted down, was amenable to treatment, saw the needs of it, and is now willing to continue until he is built up physically. There was nothing magical in it. What he wanted was someone to take control of him and to say what should be done; he needed to be separated from his family, who were aggravating him; he needed to get rest, which he could not get at Atlantic City; he needed to be kept quiet and away from excitement and moving objects. He

simply needed time and opportunity to think things out for himself and to be helped physically. Now his cure is assured. We repeatedly see patients who have squandered large sums of money and much valuable time in travel, trying vainly to overcome conditions, which travel really aggravates. While it is true that practically all cases do better in new surroundings, it is just as true that one change alone should be made, and that they should not be kept constantly on the go.

Then comes the fellow who advises you to "get out and work," "take some exercise," "take a walk," "get out in the fields," "live in the country" and "get the fresh air." While there is a great deal to be said on both sides of this piece of advice, I wish to state right now that it should only be given after the most careful observation of the patient, and then it should be applied and directed as carefully as any medical prescription you ever gave in your life.

Take the first proposition, that of changing your occupation. How many men of 40 or 50 can change their occupation? Suppose you were to give up the practice of medicine right now for a year, and to try the practice of law. Do you think it would be possible or advisable to do so? Suppose someone told you to go into market-gardening or fruit-raising for a year. Could you or would you do it? Still this is the advice that many patients are receiving. If we meet the actual conditions in the case we must ask our patients to do something they can accomplish. We must judge the matter from a different phase, from their phase. Every individual in this world should have a vocation and avocation. His vocation should earn him his living and occupy the greater portion of his time. His avocation should make him his health and occupy but a small portion of his time, and it should be diametrically opposed in variety to his vocation.

By this I mean that an individual who spends the greater part of his day in mental occupation, should spend a certain portion of it in physical occupation, and he who spends the greatter part of it in physical occupation, should spend part of it in mental occupation. He should also beware that his avocation does not become a hobby, because the instant it becomes that it becomes a source of worry. This leads us to the error of prescribing the work-cure too often. Medicine, like everything else, runs by fads to a very great extent and during the last few years we have been running through a period when work has become the great panacea for nervous disturbances, and we have heard of such remarkable cures being wrought by occupation that we are oftentimes led to believe that as physicians we should really become manufacturers and that all of our patients should become our employees.

Fortunately, however, we are coming to a more sane way of looking at the entire subject and in prescribing work for our patients, we see that it fulfils the laws just laid down for an avocation. We have tried at our institution a variety of occupations and we find that they must be constantly changed or else they become a drudgery and hinder recovery rather than help it. They must also be pleasing to the patient. They must not be forced on them at times when they do not care to undertake them. They must be used more as a pleasure and a relief from their troubles. Basket-weaving proves beneficial for most people, it is easy to acquire, clean work, can be laid down and taken up readily, produces something which is really worth the while. The nurse in charge of our polytechnic department, however, tells me that it is seldom that a patient makes more than one basket, because after they have completed one the variety of the thing has worn off and it ceases to be a novelty and to be attractive. After that she must devise something else to occupy them.

It is surprising oftentimes how trivial occupations will bring about the results desired. I call to mind a young lady just ready to graduate from school, and seemingly way beyond the picture-cutting stage, who was helped immeasurably by cutting pictures from the magazines and pasting them in a scrap book, making the whole into a very attractive and unique collection. One page was fitted up as a sitting room, another as a bed room, another one as a closet with the various articles of clothing in it; another with articles of clothing for the baby and so on. However, I could go on for some time on the subject of occupation, but space will not permit. Before prescribing it, be sure that your patient needs it, study carefully to find what variety will best please him and give him something which is far different from his ordinary line of work.

"Get out in the country," "in the open air." How often we hear this advice bestowed, how simple it seems, yet how many times it fails. There is no doubt whatever but that all mental cases do better in the country, away from the excitement and noise of the town; yet it is not the country alone that brings the changes. Iowa, for years had a larger percentage of nervous

patients than any other state in the Union, yet Iowa is known as one of our great farming states, having but few large cities, and a mammoth rural population. Surely being in the country is not by itself either prophylactic nor curative to nervousness. There must be other things, pleasant surroundings, and intelligent application of exercise, fresh air, water, occupation and the like.

The patient certainly must have fields to roam in, must have shady wooded places to lie down in and the wholesome food of the farm to nourish him; but he must also have intelligent medication and intelligent application of other well-known therapeutic measures.

One other common error and then we will finish: Never expect to cure your mentally-deranged cases in a short length of time and never advise them when taking up a line of treatment that they will be well within a few days, or at least two or three weeks. One of the most serious handicaps to the ultimate cure of many mental cases is the fact, that early in their trouble someone, whom they thought knew what they were talking about, has told them that they would be well in two weeks. Repeatedly we have patients coming to us whose family physician has told them that they will be all right if they will only go and take treatment for a month or so. When the time has elapsed and they do not find themselves as well as they had hoped, they oftentimes lose courage, become disgusted, or change for some other measures, just when they are beginning to reap the harvest which would ultimately bring them what they desire. No promises should be made as to when the case will get well. Especially is this true in all cases of melancholia. The best rule to follow is to advise them to keep at it until they have succeeded, or until they have given it such a patient trial, that they know absolutely and positively that it is failing.

Clinical experience is full of cases which after months and even years of mental derangement have become eventually cleared up and the patients able to go on with their occupation. I remember very distinctly one patient, whom I saw as a boy, before I had even commenced the study of medicine. All during my college life and my life in medical school, she remained a mental derelict, and it was not until three years later that she left the institution, capable of taking up her duties in life again and assuming her own financial affairs.

As the family adviser and as the one whose word will oftentimes leave the most lasting impression on the patient, even though they are seemingly so far deranged that they do not comprehend anything about them, we should always beware in making them promises that they will get well in short periods of time. Rather, we should impress on them the fact that it is only by the greatest of persistence that they will succeed.

These, then, are a few of the errors which we are liable to drift into in treating our mental cases. To-morrow there will be more, because each day brings forth revelations in the care of patients of this kind, which destroys much of the teaching that has gone before. We are but at the threshold of the great mass of facts which when properly correlated will not only make it possible for us to recognize early and cure the majority of these patients, but which will also make it possible for us to go farther and to control those forces in our civilization, which are causing this ever-increasing horde of mental derelicts.

With the same alacrity that we have gotten new ideas, teaching and treatment in general medicine, we must adopt them in mental diseases. Especially is this true in the case of the general practitioner, for with him lies the success of the race. By his correct advice and intelligent application of remedial measures, he can cure many of those already afflicted and by his diffusion of knowledge to the public in general, for he is the one that comes in the closest contact with the people, he can set in motion those great prophylactic measures which from time to time are revealed and found worthy of practice.

Catastrophes have dominated the vocabulary that describes factory "welfare work." Because accidents such as gas in mines, fire in factories, fever in towns, and epidemics of disease incident to certain trades were beyond the power of the workers themselves to control or prevent, wage earners have come to be looked on as helpless victims of the cupidity and inhumanity of their employers. This attitude has weakened the usefulness of many bodies organized to promote industrial hygiene. Although the term "industrial hygiene" is broad enough to include all sanitary and hygienic conditions that surround the workers while at work, it is restricted by some to the efforts made by altruistic or far-sighted employers in the interest of employees; others think of prohibitions and mandates in the name of the state that either prevent certain evils or compel certain benefits; for too few it refers to what the wage earner does for himself.—*Civics and Health.*

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EDITORIALS

THE INDIANAPOLIS SESSION

All told the Indianapolis session should go on record as the most successful in the history of the Indiana State Medical Association. Not only was the registered attendance larger than ever, close to 750 being registered, but fewer lapses occurred in the program, both among the essayists and the discussion leaders, the big majority of those appearing on the program being present to fill their places. The class of papers presented does credit to the judgment of the program committee, and the discussions, for the most part, were prompt and thorough.

The most unfortunate feature of the session was the very evident inadequacy of the German House to accommodate the unprecedented attendance. Not only was this manifest at the banquet Thursday evening, when it was estimated that between two and three hundred were turned away, but the surgical section on Thursday afternoon was so badly overcrowded that standing room was at a decided premium, many were unable to gain entrance and several of those within found it necessary to leave the room because of the discomforts of overcrowding, bad air, and noise in the adjacent corridor. It is understood that the preparation for the banquet required the use of two large audience rooms that otherwise might have been utilized for the scientific meetings, and it is seriously hoped that next year the committee on arrangements, profiting by this year's experience, will provide ample accommodations for even a larger attendance.

Space forbids detailed comment on the various symposia and individual papers, but readers of The Journal will this year have the benefit of the best set of papers that have ever been presented before our Association. The several newer points brought out by the various essayists and discussants are an evidence that the profession of Indiana is doing its part in the sober and painstaking prosecution of the best thought and work in medical science. And that the state of Indiana intends to maintain her standard of education, even in her medical school, is obvious from the wise selection she has made in the person of her new dean, Dr. Chas. P. Emerson, whose enthusiastic and hopeful plea for cooperation, at the banquet Thursday evening, aroused the interest of the whole audience in favor of higher medical education in Indiana.

While somewhat of an innovation, and though unfortunately inadequately prepared for, owing to the inability of the banquet committee to know how many to provide for in the face of failure on the part of members to send in acceptances, the banquet proved itself a notable feature of the session. The excellence of the postprandial program is attested by the list of speakers, among whom were Governor Marshall, ex-Senator Fairbanks, Rev. Frank Wicks, Dr. Emerson, Dr. H. W. Wiley, Prof. Stanley Coulter and Kin Hubbard, better known as "Abe Martin." Responding to the toast of "The Old-Fashioned Doctor," Governor Marshall struck several times straight from the shoulder at certain shortcomings of the modern profession as compared with the old school, and did not hesitate to express his contempt for present-day fee-splitting practices. While not so full of the praises for the profession of to-day as some of the other talks, notably ex-Senator Fairbanks', Governor Marshall's remarks were none the less wholesome. It requires no little courage for an outsider to go before an audience of that sort and point out the shortcomings and discrepancies; therefore we perhaps owe to the Governor more of our thanks than some of his remarks might seem to stimulate. We are convinced that Governor Marshall is a firm friend of progressive medical education and practice, and, hence, do not begrudge him his fondness for the old-time doctor. Certain it is that he was earnest in what he said, and no one could have listened to his words, coupled with those expressions of confidence and praise from Rev. Wicks, ex-Senator Fairbanks, Prof. Coulter and others, without feeling like going home with the determination to make his life as nearly as possible worthy of the high position accorded the calling by these speakers.

The speech of ex-Senator Fairbanks was a tribute to the medical profession for the work done in the interest of the common good, and in glowing words the profession was praised for all the advances and the self sacrifices that have helped to make our people financially, physically and morally better. As president of the Senate Mr. Fairbanks was in position to know something about the work done by the medical profession in securing public health and pure food legislation. He was also in a position to know how valuable the work of the medical profession has been in

stamping out yellow fever in Havana and various contagious and infectious diseases in Panama. In fact he boldly proclaimed that but for the heroic and invaluable work done on the Isthmus of Panama by the medical profession it would not have been possible for the canal to be built. These and many other things were enumerated as reasons why the people owe the medical profession a debt that can never be repaid.

Probably the greatest interest centered in the remarks of Dr. Wiley, whose return to his native state and alma mater added zest to his talk. Interspersed with witty stories and a few humorous expressions, his speech rang throughout with the same forceful determination that has characterized his official acts, and he ended with a plea for united support for the health departments, both state and national.

Aside from the banquet on Thursday evening, the social features included a smoker on Wednesday evening, where good fellowship prevailed, and the usual receptions, musicales, luncheons and automobile rides for the ladies. As host the Indianapolis Medical Society did full justice to the occasion.

The work of the House of Delegates was completed with thoroughness and dispatch, without interfering with the scientific meetings and without the profitless discussions that have been prominent features at previous sessions. The utmost harmony prevailed and no small amount of business was transacted.

One of the most important acts of the House of Delegates was the adoption of the medical defense plan as proposed by the committee, and on and after Jan. 1, 1912, medical defense will be a feature of the Association. Another important step taken was the granting of permission for the creation of a new scientific section to be known as the eye, ear, nose and throat section. This is in recognition of the work done by the 150 or more eye, ear, nose and throat specialists who are members of the Association and whose interests are subserved by giving them more opportunity for the presentation and discussion of papers relating to their specialty.

The central location of Indianapolis and its consequent accessibility from all parts of the state, make its selection as the meeting place again next year agreeable to the greater portion of the members, and it is believed that next year's session may be made even more successful from every point of view than the session just closed.

VENEREAL CONTAGION REPORTABLE

The necessity for legal recognition of the contagiousness of gonorrhea and syphilis has several times been dealt on in these columns. Now that typhoid fever and tuberculosis have, in this state, been made reportable diseases, it is high time that a class of infection that is probably responsible for as much morbidity as both of these diseases combined, should receive the attention that the profession, as the modern protectors of public health, owe to their calling and the people. It seems a mystery that a medical man could put so narrow a construction on the responsibility of his profession as to advocate a continued policy of silence toward an evil that does not limit its ravages to the voluntary victim but attacks innocent babes and mothers, merely because he thinks himself morally bound by an antiquated dictum that has outlived its usefulness. What right have we to report to our health department that a certain patient under our care is suffering from small-pox, diphtheria or other contagion that, when properly isolated, will limit its effect to the person attacked, and refuse to divulge the fact that we are also caring for a man who is legally free to go home and infect his wife and babies with a scourge that does not run its course within a few weeks, but renders them chronic invalids or decrepits that often become dependents on the state, merely because we haven't the moral stamina to say that we still retain some jurisdiction over our earthly souls?

On this point we cannot do better than to quote freely from Greene's paper on "The Reportability of Gonorrhea and Syphilis," read before the Section on Preventive Medicine and Public Hygiene, at the Los Angeles session:

"Let the public realize that we range ourselves on the side of law, order and justice. Let the physician respect the confidence of his patient, but let him scorn the confidence of the man who would deliberately do a criminal act and make him a party to it. There may be those who will prate of professional secrecy, but in their souls they will esteem and admire the man who can rise above an antiquated tradition in order to save even one woman from the results of either one of these dread diseases.

"The medical profession stands in a position of peculiar delicacy in this matter, being the only class outside the handful of social workers, who have come in contact with the recognized results of prostitution. Physicians in the world and of it have shared the universal error of secrecy, we may safely say, until now an error. We may also confidently assert, speaking for the world, or

rather for those who make the world worth the while and who must ever be the mouth-piece and the guide of the physically, mentally and morally unfit, that *the physician who now lends himself to the policy of secrecy makes himself the accessory to a crime.* [Italics ours.]

"It is not only his bounden duty to take his public stand for the public good, but it is also his duty to assert his attitude toward those of his profession who through ignorance, mistaken ideals, or absence of professional honor create an opposition which is destined to deprive medical practice of its right to be called a profession.

"The moment for half measures is past. The dire physical consequences, with frequent vicious mental accompaniments, come to our notice daily, and what do we do about them? We are treated like merchants. Our prescriptions are taken, bills paid or not; our patients neglect themselves or worse — pass on the consequences of their vice — and we shrug our shoulders, pocket the money when we get it, and feel that our duty is done. . . .

"It is high time that the medical profession rises as one man and does its duty toward the state in which it lives and the nation whose health it is supposed to safeguard. Publicity in this matter of venereal disease is one of the first requisites for its control, as it is for the control of any other infectious disease. . . .

"If laws demanding a report of every case, without name, be passed; if every discoverable source of infection be controlled regardless of the patient's social position; if adequate hospital and clinical facilities are provided not only for the very poor but for the struggling middle class, the medical profession will be able to say with pride: 'We have done our best to inspire public confidence. We have vindicated our right to be the custodians of public health.'"

The action of the State Board of Health of California in declaring syphilis and gonorrhea to be reportable diseases is an important step in the right direction and let it be hoped that such action has blazed the trail for other states to follow in rapid succession. In San Francisco a clinic has been established whereby victims of these diseases are checked up and treated, and several hundred women are now under control of the clinic. Houses of prostitution are making themselves amenable to the policy of isolation for fear of quarantine or even jail sentences in repeated offences. As an educational factor in venereal prophylaxis it is said that the establishment of this régime has accomplished more than were all the societies of California formerly able to do.

In Chicago the board of health requires all dispensaries and hospitals to report their venereal diseases, and in the children's hospitals this results in prompt recognition of the gonorrheal vaginitis that is all too common among young girls.

Although Michigan has no law requiring venereal diseases to be reported yet the board of health of Detroit has undertaken a campaign that is proving very efficacious, and, in part is thus described by Kiefer[1]: "We accept no certificates of good health whatsoever. The keepers of all houses of prostitution, known to the police, have been notified by the latter that inspectors from the board of health will make occasional visits at these houses for the purpose of examining inmates. These visits are made at unannounced and irregular intervals. Whenever an examiner finds one or more of the inmates ill with a venereal (contagious) disease, the house is placarded. We use a large yellow placard with the one word, 'quarantined,' printed thereon in large conspicuous black type. If the keeper of the house or her physician reports the case to us before we discover it, we give the patient the alternative of going to the hospital and do not quarantine the house, just the same as if it were some other contagious disease, for example, small-pox, scarlet fever or diphtheria. The effect of this regulation is that the cases are reported, but the machinery necessary to make it a success is a corps of competent medical examiners and proper hospital accommodations. In Detroit it worked out as follows: Shortly after the adoption of the regulation by the board of health, the health officer made a visit to one of these houses and examined the inmates. One woman suffering from gonorrhea was found, the clinical diagnosis being confirmed by a bacteriologic examination. The house was immediately quarantined and the result was that within a week we had reports of at least twenty cases of venereal disease with requests that the patients be removed to the hospital. We found that our hospital facilities were wanting and accordingly began an agitation for an appropriation for this purpose, which was finally granted in the spring of this year and we hope, within the next twelve months to have hospital facilities sufficient to carry out the plan."

This serves as an excellent example to show how efficient inspection when combined with intelligent cooperation on the part of the municipality can bring within the confines of modern preventive medicine in a remarkably short time a class of diseases that has been the *bête noire* of the civilized world for centuries.

1. Jour. Am. Med. Assn., Sept. 23, 1911, p. 1053.

FACTORS CONCERNING INFANT MORTALITY AND MORBIDITY

Some interesting nursing statistics have recently been compiled by Schwarz, of New York, from a study of the infancy of 1,500 children and the results published in the August number of the *Archives of Pediatrics*.

The author declares that we should not be satisfied with the idea that maternal lactation is a disappearing function, and asserts that, as a matter of fact, we do not know whether or not such is the case. His own impression, gained from his increasing experience, is that the contrary is true.

The first table of statistics comprises 1,501 infants followed one month or less, 96 per cent. of whom were able to take the breast and of these 462 followed for twelve months yielded 64 per cent. nursing at that time. Of thirty-six women who could not nurse at all, six had inverted nipples, 0.3 per cent. of the entire number of women under observation, and four seemed to have no milk at all. This table proves then, that with proper care from the start, such as is afforded by the aid of a clinic similar to that conducted by Dr. Schwarz, most women can do something toward nursing their young.

With regard to the comparison of 221 American-born women with those of foreign birth, the study yielded 96.4 per cent. of the American women and 96.9 per cent. of foreign-born nursing their infants at one month, and 57 per cent. American against 64 per cent. foreign-born women nursing their babies at the twelfth month.

By virtue of the clinic supervision, 207 women were induced to nurse their children for a longer period than they did a previous child. The importance of breast-feeding is well illustrated by Langstein's infant mortality statistics in Berlin for the year 1906, which showed that out of a total infant mortality of 9,191, only 794 or 8.6 per cent. of these babies were breast fed.

Inasmuch as intelligence in preparing milk mixtures and the general care of the baby plays so important a rôle in infant mortality, it is interesting to note that of 706 literate families, the infant mortality was 136.7 per 1,000 born, as against 190 per 1,000 where neither of the parents was able to read.

The influence of the mother's having to work during her pregnancy is shown by the mortality rate of 278 per 1,000 born among such, as against a rate of 131 per 1,000 born among 535 women who did not have to work.

That the more common and more prolonged breast-feeding of the foreign mothers is responsible, in a large measure, for the decreased infant mortality is well shown in a study of 839 American mothers whose infant mortality was 163, as compared with 2,024 foreign mothers with an infant mortality of 117 per 1,000 born.

While epidemic diarrhea does occur, especially among hospital babies, and while clean milk is very essential in the prevention of infantile diarrhea, yet equally important are the questions of the proper methods of feeding, the kinds of mixtures employed, the quantities and intervals of feedings, as brought out by Park and Holt.

That high temperature has a direct effect on the production of summer diarrheas of infancy is amply proved by Rietschel's experiment of putting children in superheated rooms and observing the increased temperatures and intestinal symptoms that appear very promptly. That the lower humidity has a greater effect in the production of morbidity than an increased one, is the opinion of the author but this is certainly not in harmony with the views of other observers. Indeed it stands to reason that in the presence of high temperatures, an excessive humidity would serve only to prevent rapid evaporation and consequent cooling of the body surface; hence high body temperatures would be maintained by an atmosphere that was already high in its moisture content. In the pediatric section of the New York Academy of Medicine at its last session, Bartlett quoted Finkelstein and other German observers who declare that the factor chiefly responsible for the large infant mortality in summer was not the bad milk nor the bad feeding, but the overheating such as existed in the houses. In these buildings the heat was often from 5 to 10 degrees C. above that of the outside air, with little reduction at night in contrast to outside air. The resulting increase in body temperature reacted particularly on those children who were either badly nourished or had digestive disturbances. Continued hot spells then, particularly in the cities, mean high infant morbidity and mortality from bowel disturbances, even in the presence of a reasonably good milk supply.

It would seem then that the rational thing for the child in the excessively hot and humid weather is some means whereby the air may be kept moving for we know that circulating air, even though it be of no lower temperature, is efficient in lowering body heat. For such purpose the electric fan probably offers the most accessible and satisfactory means. And when one observes the restful, sound sleep enjoyed by a child with the aid of a fan trained above its crib and contrasts this with the fretful, restless nights of the hotter parts of summer in this climate, the con-

clusion is at once patent that a child's resistance to summer diarrheas and other ailments can be definitely raised by affording him a maximum rest at night.

Some interesting data were also brought out at the above-mentioned meeting regarding the results of pasteurization and Park recited an experiment wherein a group of fifty babies were being fed on a modified milk pasteurized at 160 degrees for twenty minutes. In June half of those babies were given the same supply of milk, but without previous heating, averaging about 1,000,000 living bacteria per c.c., while the bacterial content of the pasteurized portion was about 10,000 per c.c. Immediately an increase in the diarrhea among the half getting the unheated milk, took place, for which the bacteria only could be held directly accountable. On the resumption of pasteurization the babies' condition remained good. It seemed too that an infant acquired a certain immunity to the bacteria of its regular milk supply, the mucous membrane of its bowel resisting the flora to which it was accustomed, but with a change of the milk supply new species of bacteria were introduced and diarrhea ensued.

That Straus, Jacobi and others were eminently correct in the high estimate they put on pasteurization as an infant-mortality reducing agent was amply proved among New York City's waifs on Randall Island where the mortality of 41.81 per cent. for 1895, 1896 and 1897 was reduced to 21.75 per cent. without any other change than the pasteurization of the milk.

In this same symposium many axiomatic facts were brought out by Rowland G. Freeman. One of these was the importance of keeping the baby gaining in weight, for an infant that is not gaining is in more danger of infections and diarrhea than one that is gaining normally. He also emphasized the fact that Jacobi was probably nearer to a rational method of feeding when he advocated whole milk diluted with a cereal decoction, than were later pediatricians who introduced methods of modification which allowed of high fat percentages. Relative to the sugars, the Germans have demonstrated that maltose is very often handled by the infant better than lactose, as is cane sugar occasionally. And the old idea that babies were unable to digest starches has been controverted, for the cereal decoctions are now recognized to be of distinct value in modifying the curding of the milk and in supplying a mucilaginous material which stimulates the gastric secretion.

MEDICAL DEFENSE ADOPTED

At the last session of the Indiana State Medical Association, held in Indianapolis, the House of Delegates adopted the medical defense plan proposed by the committee appointed to investigate the subject and submit recommendations. The report of the committee was published in the September number of The Journal and recommends the following:

1st, That 75 cents of the annual dues of each member shall be set aside as a special fund for medical defense.

2d, That whenever the fund shall exceed the sum of $6,000 the surplus over and above that amount may be used for other purposes of the Association.

3d, That the administration of medical defense shall be intrusted to a permanent committee of three members.

4th, That this committee shall have full authority governing all matters pertaining to the medical defense features, but the expense incurred in any one suit shall not exceed 25 per cent. of the fund available at the time the suit is incurred.

5th, That the chairman of the committee shall be custodian of the defense fund and give bond in the sum of $3,000.

6th, That the committee shall make an annual report to the House of Delegates, showing what has been done and money expended, said report to be published in The Journal.

7th, That the liability of the Association shall include only the expenses necessary for legal defense of its members and not damages awarded.

8th, That the Association shall not undertake the defense of a member in a suit that may be brought to secure indemnity for services rendered prior to Jan. 1, 1912, nor in any case in which the member, who applies for medical defense by the Association, has failed to pay his annual dues for 1912 prior to the rendering of services which are the basis of the suit; and that medical defense by the Association shall not be available to those who are delinquent or to those who have not paid the annual dues of the Association prior to the rendering of services for which indemnity is asked. (Dues are payable on January 1 and become delinquent on February 1 of each year.)

9th, That a member desiring to avail himself of the services of the medical defense committee must first submit his claim, with all facts relative thereto, to his local county medical society.

10th, That the committee of the local county medical society shall immediately report its findings and offer recommendations to the medical defense committee of the Association.

11th, That the report from the county medical society, if favoring medical defense, must be accompanied by written authority of the defendant granting the defense committee full power to act in his behalf, and an agreement that the case shall not be compromised or settled without the consent of the committee.

12th, That in the event that the county medical society committee shall fail to recommend the case as one worthy of the recognition of the medical defense committee of this Association, a direct appeal may be made.

13th That suits brought against the estate of a deceased member shall be defended, as if that member were alive.

14th, That each member of the Committee on Medical Defense shall be entitled to an honorarium of $10 per day for services actually rendered while at home, and $30 per day with traveling expenses if required to go out of town in the investigation of any case or in attendance at court, and that these same fees shall be allowed to expert witnesses under similar circumstances.

15th, That the committee shall have power to adopt such other rules, not in conflict with foregoing, as may be necessary.

16th, That medical defense shall be a feature for the year 1912 and thereafter, after the adoption of the resolutions which hereafter become a part of the By-Laws.

The adoption of the plan as briefly outlined indicates that the Indiana State Medical Association has taken a progressive step which will prove advantageous to each and every member of the Association. Medical defense is a feature of several state medical societies, and so far as we know it has proved satisfactory wherever tried. In some states the expense has not averaged more than 50 cents per member, and it is hoped that by careful management the 75 cents per member in our Association will be sufficient to carry on medical defense in all deserving cases.

Hereafter it will be a matter of considerable importance for all members of the Association to pay dues promptly in order to maintain good standing in the Association and thus secure the advantages of medical defense in suits for malpractice. Medical defense will begin on and after Jan. 1, 1912, but it will apply only to those suits for services rendered on and after Jan. 1, 1912, and to those physicians who not only have paid dues for 1912 but paid such dues prior to the rendering of services for which suit is brought. Furthermore, the By-Laws of the Association provide that a member is not in good standing until his dues have been received by the Association secretary. Therefore, it will be seen that in order to be in good standing in the Association and entitled to medical defense, a physician should make sure that his dues are paid before Jan. 1, 1912, and any delay on the part of county society secretaries in forwarding dues collected may result in depriving some physician of medical defense. The best way to be sure of good standing on Jan. 1, 1912, is to pay 1912 dues in November or early in December and secure the membership card for 1912 before the beginning of a new year. There is no excuse for delay in the payment of dues, and now that promptness is absolutely necessary in order to secure all the advantages of membership it is hoped that before the first of the year Secretary Combs will have received dues from every member of the Association.

EDITORIAL NOTES

It is now President Howat.

Indianapolis again in 1912.

The last session of the Association was the best in the history of the organization. A registration of 748 bona fide members breaks the record and is something of which we may be proud.

Pay your 1912 dues before the close of this year and by so doing secure all the advantages of membership. Medical Defense becomes operative on and after January 1, but only for those who have paid dues for 1912.

President Heath made an excellent presiding officer, and the Association is to be congratulated on having a president who not only has good sense and judgment, and a proper conception of courtesy, but the courage of his convictions.

We are pleased to note that President Heath refused to suspend the rules in the House of Delegates in connection with the election of officers. In a matter of little importance it occasionally saves time to act on suspension of the rules and no harm is done, but generally speaking it is not good practice to suspend the rules, for under suspension of the rules a bad precedent is often established.

A few years ago the House of Delegates passed a resolution requiring the committee on arrangements to refuse to allow any individual or firm to exhibit at any of our Association sessions a proprietary preparation not approved by the Council on Pharmacy and Chemistry. It is regretted that the rule was not followed at the last session held in Indianapolis.

In his address at the banquet at the Indianapolis session Governor Marshall in no uncertain tone condemned the practice of division of fees among physicians. We have often said that publicity will eventually put a stop to the nefarious practice of fee splitting, and Governor Marshall has made it plain that the general public does not approve of such dishonest traffic in the ills of humanity.

The German House at Indianapolis ordinarily is an ideal place for holding sessions of our Association but this last time, owing to rooms being taken up in preparing for the large banquet on Thursday evening, the hall assigned for meetings of the Section on Surgery was entirely too small and a large number who desired to attend the meetings were unable to secure either seating or standing room.

Dr. Wiley says that during his fight for the pure food and drug law an enthusiastic supporter wired him, "Give them hell, Doc," and Dr. Wiley asserts that he was giving and will continue giving his opponents on this proposition all that his ardent supporters desire. Here's hoping that Dr. Wiley may live long to hold his present job, and that he may continue to be as effective in his future work as he has been in the past.

One of the notable features of the Indianapolis session were the welcoming remarks by the venerable Dr. Wm. H. Wishard, the only surviving charter member of the Association. At the ripe old age of 96. Dr. Wishard is still physically and mentally active, and as President Heath has said, "no man could be better preserved for such an age and no man has lived a better life, and we can do no better than emulate his life of virtue, harmony and optimism."

The attorney-general of the state of New York has rendered an opinion to the effect that a license to practice medicine may be revoked if a physician fails to report promptly births and deaths as required by law. When it is considered that the law in Indiana concerning the reporting of births and deaths is similar to the New York law it can be readily understood that it may be a serious thing for a physician to neglect or refuse to comply with the law.

Some of our Indianapolis friends complain about the inactivity of committees. Experience proves the wisdom of having small committees if real work is to be accomplished. Generally speaking a committee of three will do more than a committee of five, ten or fifteen, and oftentimes one person who appreciates the responsibility will do more than a committee of three. Men for committees should be selected because of peculiar fitness for the position, and if one man is held responsible for the work to be done the results will be more satisfactory.

The medical inspection of schools is growing in popularity and in those cities and towns where the practice prevails the people are beginning to appreciate its advantages and give it moral and financial support. Usually when medical inspection is first adopted it is carried on by some interested physician who does the work without remuneration. But the work requires time as well as knowledge and it is imposing on the public spirit and generosity of medical men to request such services without remuneration. The medical inspector is as deserving of pay as the teacher or anyone else who works for the school.

The House of Delegates at the Indianapolis session gave authority for the establishment of another section, to be known as the eye, ear, nose and throat section. It was shown that there are over 150 members of the Association who are particularly interested in diseases of the eye, ear, nose and throat and that these men are deserving of a section where their special papers may be presented and discussed at length. It is now thought probable that one and not to exceed two meetings will be devoted to these special papers, and that the program will be so arranged that there will be no conflict with other section programs that may be of interest to the eye, ear, nose and throat specialists.

It is said that Dr. George L. Dickerson, formerly of Terre Haute, with a branch office at Logansport, and whose license, at the instigation

of the Cass County Medical Society, was revoked some six years ago for irregularities, has been encouraged by the State Board of Examiners to return to Logansport, to seek retrievement at the hands of the Cass County profession. There are opportunities enough for missionary work within the borders of our own state without seeking in Florida for the return of shameless charlatans. If our information be correct, we would respectfully urge all reputable physicians to enter a written protest to the Board against this sort of procedure and demand that it abide by its former decision.

On several occasions we have expressed the conviction that the expert anesthetist of to-day is about as poorly paid as any man in the profession who is spending his time in the pursuit of any one line of work. Hence it is gratifying to learn that surgeons in and about Logansport, something over a year ago, began paying their anesthetists a fee of $10 for the usual major cases. The result has been very satisfactory and as a consequence it is said that that city is favored with a few men who are unusually efficient in the use of anesthetics. We hope for the time when anesthetists can afford to devote their whole time to that work alone, and firmly believe that there lies the road to minimum mortality from anesthesia.

A problem of modern sociology is boldly answered in real life by an episode recently occurring in Florida, where two Shakers purposely administered a fatal dose of chloroform to a woman dying of consumption and in insupportable pain. The two Shakers have been arrested, charged with murdering the woman. The incident brings up the question, Is a person ever justified in ending the hopeless sufferings of another by causing death? It is evident that the Shakers who administered the chloroform to the consumptive were not actuated by any criminal purpose or intent, and public sentiment already favors their dismissal by the grand jury. Even if indicted, it is more than doubtful if a jury could be found to convict them.

The fiscal year of the Association ends in December and it is hoped that with the beginning of the new year each of the county medical societies in the state will have adopted the recommendation to have its fiscal year correspond with the fiscal year of the state association. This will mean that the election of officers should be held in December, and at that time the program for the coming year should be prepared and the advance dues collected.

In the selection of a secretary, we desire to offer the recommendation that has been made frequently in the past, that an active and young man be selected for the office. The very life of a society depends on the secretary, and there is no better way to kill a society than to elect a poor secretary.

Never in the history of the state has there been such a notable event for the medical profession as the banquet given at the Indianapolis session of the Indiana State Medical Association. Nearly 700 sat down at the banquet, and fully 300 more were turned away because they could not be accommodated. The post-prandial program was the drawing card, and it is no wonder when we consider that the speakers were such well-known persons as Governor Marshall, ex-Vice-President Fairbanks, Dr. Wiley of pure food fame, Dean Emerson of the Indiana University School of Medicine, Professor Coulter of Purdue, Rev. Mr. Wicks, and Kin Hubbard, the caricaturist. The crowd was not disappointed, for the speeches were excellent and paid tribute to the work and achievements of the medical profession.

H. L. Harris, of New York, who styles himself a publicist, but who in reality is the paid representative of the opponents of the pure food and drug laws, is just now trying to undermine the support which the medical profession is giving to Dr. Wiley by trying to prove that Dr. Wiley is not the friend of the medical profession but is the enemy of all that makes for scientific advancement and economical progress. Mr. Harris should save his ammunition for he is wasting it on game that will never be bagged by the venal crowd he represents. The medical profession as a whole is fully capable of passing judgment upon the value of the work done by Dr. Wiley and takes pleasure in commending and supporting all that has been done in the fight for pure food and drugs, and is distinctly antagonistic to the "large interests" that would exploit the public for private gain.

With the increased attendance at the sessions of our State Association it becomes evident that the expense and work involved in entertaining the visitors is a large load for the local medical society to carry. There is no good reason why the practice of asking the local medical society to do all the work and pay most of the bills should continue to be followed. The Association

should pay its own bills, and its representatives should have full charge and relieve the local medical profession of obligations which now are a little too burdensome. One good paid representative could be responsible for all the general arrangements, and he should be given authority to employ assistants as required. This representative need not be a medical man, but he should be thoroughly acquainted with the needs of the Association and be given entire charge of the purely business arrangements for the annual session.

In the discussion of the symposium on tuberculosis presented at the Indianapolis session, Dr. Gekler, of Rockville, threw a bomb into the camp of the tuberculin enthusiasts when he declared that tuberculin diagnosis in an adult is valueless because of the fact that it has been shown that 90 per cent. of all adults are tuberculous. It is regretted that the time did not permit a more thorough discussion of this interesting question, and many of us are wondering if the next ten years will not find all our text-book knowledge of tuberculosis displaced by ideas directly antagonistic to what at present we accept as established fact. Tuberculin diagnosis when properly carried out has been accepted as thoroughly reliable and conclusive, and yet we are now confronted with the statement that it is valueless because most of us have or have had tuberculosis. We are also told that many of the leading foreign clinicians have abandoned the use of tuberculin. Thus are our idols shattered.

The Indianapolis session was a decided success from every point of view. There was a record-breaking attendance — a registration of between 700 and 800 actual members — and the scientific and social programs were all that could be desired. The committee on scientific work deserves great credit for selecting a list of exceedingly creditable papers on a diversity of subjects, and the papers merited and received excellent discussion. The social features included an enjoyable smoker on Wednesday night, a notable banquet with able speakers on Thursday night, and the usual receptions, luncheons and automobile rides for the ladies. The work of the House of Delegates was carried on without delay or interference with the scientific meetings, and a spirit of harmony and good fellowship prevailed throughout the entire session. We hope that the Association may have many more sessions as profitable and gratifying from every standpoint as the last Indianapolis session.

The Indiana University School of Medicine will profit to the extent of about $30,000 as the beneficiary named in the will of the late Dr. William Flynn, of Marion. Dr. Flynn was one of the prominent men of the state, and has often expressed the view that medical men who can afford it ought to contribute to the support of medical education and the progress of scientific medicine. It is evident that he followed the principle which he advocated, and his will names the Indiana University School of Medicine as the beneficiary. If other physicians, who are not obligated to relatives, and if many very wealthy men who can well afford it, would follow Dr. Flynn's example it would not be long before we could have an endowed medical school in Indiana which would be second to none in this country. It is quite true that our medical school is being supported by the state, and in all probability the appropriations will be fairly liberal, but the greatest good cannot be accomplished from the support given by the state, which generally speaking, is nothing more than maintenance.

The water from the Thames must possess peculiar germicidal properties. In carrying out some experiments with typhoid bacilli, Dr. Houston, director of water examination for the Metropolitan Water Board of London, took a supply of typhoid bacilli from a person who had suffered from typhoid and had infected no fewer than forty persons, and placed the bacilli in samples of raw Thames water. The bacilli perished very rapidly, but in order to test the matter to its ultimate conclusion Dr. Houston drank half a pint of the infected water. This had no ill effect, although the water drank contained more than 218,000,000 typhoid bacilli. Were it not that Dr. Houston drank of it and lived we would be inclined to believe that Thames water was sufficient to kill anything, and that a self-respecting typhoid bacillus would scorn to live in such polluted surroundings. The fact remains, however, that the experiment of Dr. Houston shows that there are some peculiarities about the virulency and growth of typhoid bacilli which we do not thoroughly understand.

The Chicago *Tribune* has established a department to be called "How to Keep Well," which will be edited by Dr. W. A. Evans, formerly Health Commissioner of the city of Chicago. The *Tribune* has always given its cooperation to all health movements and aided in efforts to safeguard the welfare of society. It has supported in

its editorial and news pages The Pure Food movement, and it has been exceedingly careful to protect its readers against being misled by improper and exaggerated statements of cures by doctors using the advertising pages and refuses most advertising of this kind. It has fought hard for a higher grade of medical services. Municipal health departments, those arms of the Government dealing with questions which affect health, and which have shown efficiency have already had its cordial support. At the same time it has striven to uphold all those who care for sick people. The *Tribune* is laying the foundation for more active work by starting this new department which ought to stir up an interest in the subject of right living. Dr. Evans is ably qualified to conduct this new department in a manner which will popularize all health movements.

The Knox County Medical Society is making itself felt in a political way, for quite recently three of the members of The Good Samaritan Hospital Board at Vincennes, Indiana, tendered their resignations as the direct result of a demand of the members of the Medical Society that a physician who holds membership in the Society be made superintendent of the hospital with full power. It is unfortunate that politics makes strange bedfellows, and that our public institutions, and particularly our hospitals, have to suffer as a result of political influence. Some of the medical appointments are all that could be desired, but in not a few instances unqualified physicians are holding medical positions purely as a result of political influence and not because of any ability making them fit for the positions. This state of affairs exists as a lack of unity in the medical profession, as also failure to take any part in political affairs. As Dr. McCormack has frequently stated in his lectures before medical societies, the medical profession can be a power for good in politics if physicians will unite in their efforts to put good men into offices where medical knowledge is required, and to take sufficient interest in politics to accomplish the end in view.

Few members of the State Association appreciate the importance of the work of our councilors and the sacrifices that are made by most of the councilors in complying with the demands of the office. It is not always convenient to spend a day or the greater portion of the day in attending a medical society or in looking up medical affairs, and yet each councilor is expected to do this several times a year, and without remuneration. He is also expected to aid the county society officers by correspondence and by personal solicitation in furthering the organization movement. In fact if he is a good councilor he will find the duties of his office requiring many sacrifices, and the results very gratifying in building up a harmonious, active and progressive medical profession in his district. The selection of councilors should therefore be with a view to securing men who are not only willing but capable of aiding in increasing membership and interest in the county medical societies. No man should be on the Council if he is a mere figure-head, for the best interests of the county societies as well as the state association demand that the Council be composed of active men, and men who are broad-minded and command the friendship and respect of their fellow physicians.

Not since the Association began to migrate many years ago has there been a time when two or more Indiana cities have not been bidding for the next session. For the 1912 session there was but one bidder — West Baden, French Lick — and a majority of the delegates were opposed to going there because of poor railroad accommodations. Accordingly the delegates voted unanimously to go to Indianapolis again. There is no question but that Indianapolis is an ideal convention city, and that the local medical profession will extend a warm welcome, but we believe that the best interests of the Association are served by having at least every other session away from Indianapolis. This does not mean that Indianapolis is peculiarly fitted to interfere with the growth and prosperity of the Association, but that no city or town should be continuously the meeting place of an organization having a membership covering a large territory or otherwise that organization soon assumes the characteristics of a local organization and fails to be as influential as it should be. We believe that it would not be a bad policy to meet in Indianapolis every other year, but we are in favor of giving other cities in the state an occasional opportunity to entertain the Association.

We desire to remind the county medical society secretaries that considerable importance is attached to the prompt payment of dues for 1912 and that some embarrassing complications may arise if dues collected by the county society secretary are not promptly forwarded to Secretary Combs of the State Association. We have known of many instances where dues paid to county soci-

ety officers never reached the state association until months afterward. In fact we know of one officer who now holds state association dues that were paid several months ago but not turned over to Secretary Combs. Now that we have medical defense as one of the benefits of membership in the Association it is vitally important, in order to have the advantage of all of the benefits, that the dues be collected promptly and immediately sent to Secretary Combs. An effort should be made to collect all the 1912 dues during November and December, for no one can have the advantage of medical defense until after the dues are paid, and medical defense begins Jan. 1, 1912. Under any circumstances the dues are payable on or before January 1, and become delinquent before February 1 of each year. Dues can be paid in November or December as easily as they can be paid in January, and a great deal of annoyance may be prevented by the payment of dues before the fiscal year closes.

As an indication of an increasing culture in this country it should be noted that the legislatures in some of the western states have passed acts giving cities the right to submit the question of an art tax at any general election and many enterprising and progressive cities have taken advantage of the opportunity to either establish municipal art museums or aid in maintaining public museums established by private enterprise. St. Louis has established a municipal art museum, and Indianapolis, through its board of school commissioners, aids the art association of the city in maintaining the art museum.

In time we may progress to the point where every populous community may have a hospital, supported from the general tax fund, instead of depending on donations and bequests from individuals. Two-thirds of the public hospitals of this country are in debt and suffering for want of proper financial support. Many of these hospitals are shamefully imposed on by the municipal authorities who have no hesitancy in asking and accepting gratuitous services from the hospitals, kept up on donations, for the sick and injured poor who ought to be cared for at municipal expense. A hospital is necessary in every populous community, and it should be supported by general taxation. If not supported by general taxation then the hospital should have the legal right to collect the established rates for the care of the community's poor.

We approve of the plan to have municipalities aid in the support of art, but we believe that there are some other very necessary things which should be first considered and among them is the hospital.

The suppression of unnecessary noises in our large cities is a matter of considerable importance if we are to have any consideration for the ordinary nervous system, and, in particular, any regard for the comfort and health of those who are sick. No one doubts the possibility of doing away with at least two-thirds of the noise that now can be heard in any city. The clanging of bells, tooting of whistles, and the incessant clatter on a hard pavement are bad enough for a well person to endure and exceedingly injurious to many of the sick. Those who are confined in hospitals are especially annoyed by the unnecessary noises of the city, and it is surprising how inconsiderate of the best interests of those confined in hospitals a thoughtless public can be. Judged by appearances it would seem that an automobile driver takes unusual delight in opening the exhaust of his machine and incessantly tooting his automobile horn every time he gets in front of a hospital. If it is nighttime his delight is all the more keen and his efforts to produce noise all the more active. He is assisted by the engineers on the railroads who find occasion to blow signals about four times as often as necessary, and the owner of one or more dogs that bark all night and sleep all day is quite sure to find it pleasanter to live in the neighborhood of a hospital where his presence and the presence of his cur are sure to be known. The street cars make more noise than is necessary in order to secure the right of way, and even the clanging of numerous church bells is not a solace to the irritable nervous systems of many people. In short, unnecessary noises should be considered a nuisance and suppressed by law, and hospitals in particular should be protected from such nuisance by suitable legal restrictions.

Dr. David W. Stevenson, treasurer of the Indiana State Medical Association, at a recent medical meeting declared that handshaking was as great a menace to health as the roller towel, the public drinking-cup, or promiscuous kissing. This statement has finally gotten into the public press and is receiving editorial comment of one kind and another, and is giving Dr. Stevenson considerably more publicity than he probably desires. One editorial writer, in speaking of the "Stevensonian theory," says that no doubt it is true that the practice of clasping the hands of those suffering from small-pox, yellow fever, or some ugly contagion might result disastrously for

the person persisting in it, but that the ordinary handshaking among people in the walks of everyday life is dangerous, is ridiculous and absurd. To refute it the editor advances the clinching case of the chronic candidates for county office. Who ever heard of one of these fellows dying? Yet year in and year out they gad the streets of the city and the country lanes as professional glad hand claspers. They shake hands, long and lovingly, with all sorts and conditions of men; no paw is too dirty for them to hang onto with an affection more than fraternal. The tremulous claw of even the tottering consumptive is seized by them and into his ear are poured anxious inquiries diplomatically calculated to probe the probability of his living until after the election. The mangy and syphilitic hangers-on of low resorts are greeted with a yearning solicitude no less tender, and by the warm pressure of the candidatorial hand are made to feel themselves peers in the empire of uncrowned kings. All these and many more are "pumped" in the rounds of the aspirant for official preference, yet no candidate ever succumbs under the mountainous accumulation of ravenous and devouring germs which must be his onus according to the "Stevensonian theory."

An intensely dramatic incident in life in the northern wilds of this continent has recently been reported. At Fort Hope, one of the northernmost stations of the Hudson Bay Company, where the few residents of the white race are cut off from civilization the whole year round, Harry McPherson and his wife have been sustaining the rigors of climate and hazards of isolation in that wild region. The wife was taken ill and the husband with that rough and ready knowledge of a great variety of things which is forced on people who are left entirely to their own resources in such a situation diagnosed the stricken woman's ailment as appendicitis. McPherson had no more knowledge of surgery than comes to a man accustomed to giving "first aid" to such injured Indians, half-breeds and whites as need attention by reason of the ordinary accidents occurring at a fur station. He knew, however, that instant action was necessary to save the beloved life. With splendid courage and nerved by a devotion which inspires the great majority of men in the marital relation, he made the incision and removed the vermiform appendix with no other instrument than the "first-aid" kit. This desperate remedy for a desperate disease appears to have been crowned with success, but the dreadful difficulties of the case were not yet over. Nepigon, the nearest settlement having a hospital, was 200 miles to the south. Transportation of the patient could only be made by canoe and portage. For this journey the woman was prepared and ten Indians were employed for the expedition. At one point the sufferer was carried by the Indians for 13 miles over difficult ground. Finally she was lodged in the hospital at Nepigon. Husband and wife manifested heroic bravery which must have evoked a thrill of admiration in every human breast. Think of the woman who submitted herself to that crude surgery in an operation which might have meant immediate death at the hands of her husband. There was no anesthetic, no other anodyne than loving confidence that the husband would do his best.

The English merchants, tiring of interminable holidays, are suggesting that the time devoted to business in the city should be extended. Those who advocate this new idea declare that in Germany and the United States, England's great rivals, business men and their employees work longer hours, and to this they attribute the success of Britain's trade rivals. It is claimed that the business of London and other English cities starts a full hour too late, and the notion of too many city men that serious work ends on Friday completes the mischief.

It ought to be comforting to our English friends to know that here in the United States there is a growing tendency to work less and play more, and the labor unions are wielding a powerful influence on the legal restriction of hours of work. Shorter hours and more pay is the cry heard on every hand, and in many localities the Saturday afternoon holiday is a fixture which may soon be replaced by the full holiday on Saturday. Certainly it will not be long before we shall take things as leisurely as the Englishman, and there is good reason for our doing so. Business is not the only thing to be considered in this short life of ours, and the idea of being a slave to long hours is good neither for business nor health. In fact it has been conclusively demonstrated that the average American accomplishes more in a given time than the men of any other nationality. This in itself is sufficient to make the American leader in the fight for commercial supremacy and no matter how far the foreigner may go in following us in the number of hours devoted to work we shall probably continue to lead in the reputation for accomplishing great things in a commercial way.

But the old saying that "all work and no play makes Jack a dull boy" should not be ignored, and while as yet we have shown little tendency

to be dull there is a growing tendency for us to deteriorate both physically and mentally at a very early date in consequence of the long hours and nervous strain of a business career not sufficiently broken by hours of rest and recreation. The average American craves wealth and luxury, and he is willing to sacrifice health and even life in the attainment of his desires, but the sooner he realizes that the penalty is too dear the sooner he will realize that the leisurely way of doing things in England is the best in the long run.

We have been saying a good deal about active county medical society secretaries, and someone has very kindly sent us a letter which was sent out by the secretary of the Madison County Medical Society on September 23. The letter seems to indicate that the secretary, who by the way is a lady physician, is a live wire, and we wish that there were more of them in the state of Indiana. The letter is as follows:

Dear Doctor: The Madison County Medical Society will meet in regular session in the Public Library in Anderson, Sept. 26, 1911, at 2 p. m.

Dr. F. G. Keller, of Alexandria, will read a paper on "Hiocolitis with Complicating Purpura."

Dr. C. O. Bechtol, of Marion, will read a paper on "Some Diseases with Stomach Symptoms."

This society has sixty-one members. The average attendance is seventeen. This invitation is to the other forty-four. This society has existed several years on your dues, it would like your presence as an accompaniment. If the papers of this society bore you, you write the papers and the rest of us will stand for it. If you have a grouch come out and air it. In fact the secretary of this society from one hand offers you an olive branch, the other a club and cares not which you take. If you have one atom of professional patriotism left in your composition come out and prove it. The officers of this society are of the milk of human kindness variety. The seventeen members who attend regularly, occasionally and semi-occasionally volunteer to act as sponge bearers and rubbers. Take a hitch on your pride and don't compel us to act as pall-bearers.

Appended to the letter is a story which evidently the secretary considered to be apropos, and we quite agree with her. The story is as follows:

A drug salesman sends the following story: "A few days ago, in one of the small cities in my territory, I was invited by one of the doctors to attend a meeting of the county medical society. As the county has about 120 doctors, and as there were about forty in the city, I thought there would be from 60 to 75 doctors present at this meeting; so, to do the nice thing, I got a box of 50 good cigars and went to the meeting with the doctor who had invited me. I have been smoking those cigars ever since! There were thirteen doctors present, and four of these, one a lady, were not smokers. This society seems to be troubled with asthenia. A ludicrous feature was that the meeting was held in the office of the cemetery association, which under the circumstances (it being a dying association) was most appropriate."

We suggested to our friend that the best thing that could happen to that society was to get into a good lively scrap. Though we believe in harmony, there are times when too much harmony is a dangerous thing. In this case, possibly a good fight might cause the "smokers" to turn out.

DEATHS

Dr. William Flynn died at his home in Marion, September 2, at the age of 61 years.

Dr. Sherman B. Hitt died suddenly at his home in Greensburg, September 25, aged 57 years.

Dr. John W. Medaris, aged 96, died at his home in Brookston, September 21. He had practiced medicine there for fifty-three years.

Dr. H. B. Tucker, a dentist, was found dead in bed September 25. He was a brother of Dr. F. A. Tucker, president of the State Board of Health.

Dr. Samuel Reed Richey died at his home in Donaldson, August 1, from ulceration of the pylorus, complicating chronic gastro-intestinal catarrh, aged 70.

Dr. John W. Ballard, for thirty-five years a practitioner of Logansport, and for three terms coroner of Cass County, died at his home in Logansport, September 9, of cerebral hemorrhage, aged 56.

NEWS, NOTES AND COMMENTS

The Storm abdominal binder recently took the first prize offered by the Philadelphia Hospital.

Dr. Hugh D. Wood, Angola, was seriously injured in a fall on a slippery sidewalk, September 18.

Dr. Miles F. Porter, Jr., a recent graduate of the Harvard Medical School, is now associated with his father, Dr. M. F. Porter of Fort Wayne, in the practice of surgery.

Dr. Fred McK. Ruby of Union City and Miss Ethelyn Butcher of Richmond were united in marriage September 7.

Dr. Walkinshaw and family of Stillwell spend a three weeks' vacation by taking an auto trip to Ontario, Canada.

Dr. E. G. Kyte, formerly of Martinsville, has removed to Indianapolis where he has taken up practice at 1010 Division Street.

Dr. Lilian Mitchell of New York City has taken a position as assistant in the office of Dr. A. E. Bulson, Jr., of Fort Wayne.

Dr. James W. Huffman, of Poland, and Miss Stella Belknap, of Bismarck, Mo., were united in marriage September 30.

Mrs. Wright, wife of Dr. Ervin Wright, of Huntington, was operated on for appendicitis September 23. She is recovering rapidly.

Dr. R. S. Galbreath, graduate of Northwestern, has located in Huntington, as has also Dr. A. H. Shock, a recent graduate of Indiana University School of Medicine.

The Thirteenth District Medical Society held a very well attended and interesting meeting at Wawasee Lake on September 5. The meeting closed with a banquet in the evening.

Three new cottages have been completed at the County Infirmary, Indianapolis, for the use of inmates suffering with tuberculosis or cancer. The cottages are piped for steam heat.

Dr. Kenosha Sessions, formerly a physician for women at the Southern Indiana Hospital for the Insane, at Evansville, was elected superintendent of the Indiana Girls' School at Clermont recently.

An ordinance has recently been proposed requiring the installation of a sanitary plumbing system in every new building erected along the route of a sewer in Indianapolis, and the same has received the hearty endorsement of the city board of health.

Members of the Grant County Hospital Association recently appeared before the county commissioners and urged that the board place in its budget for the consideration of the county council a request for an appropriation of $50,000 for a county hospital building.

Superintendent Laughlin of the Indiana Southern Hospital for the Insane has named Dr. A. R. Schier of Evansville as first assistant physician to take the place of Dr. John Glover. Dr. Ruth Alexander, who was recently appointed, has entered on her official duties.

The Dr. C. E. and C. W. Sawyer Sanatorium, near Marion, Ohio, is being remodeled and a group of bungalows added for the accommodation of patients and guests who desire private quarters. The sanatorium will have its own water system, its own sewage disposal plant, and up-to-date electrical equipment of every kind.

Since September 1, the following articles have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. for New and Nonofficial Remedies:

Adalin (Farbenfabriken of Elberfeld Co.).
Adalin tablets (Farbenfabriken of Elberfeld Co.).
Ferro-Sajodin (Farbenfabriken of Elberfeld Co.).
Ferro-Sajodin tablets (Farbenfabriken of Elberfeld Co.).
Quinine Tannate (New York Quinine & Chemical Works).
Quinine Tannate (Brunswick Chemical Works).
Quinine Tannate (Powers, Weightman, Rosengarten Co.).
Bulgara Tablets (Hynson, Westcott & Co.).

Dr. Thomas B. Noble of the Indianapolis City Board of Health and Dr. J. L. Freeland, superintendent of the City Hospital, appeared before the Board of Public Works recently, and insisted that before final action is taken on the adoption of specifications governing competition for city hospital plans the health board be consulted. The works board, after some deliberation, agreed to allow one week for the health board to go over the specifications that have been prepared by a committee composed of Dr. Samuel E. Earp,

Dr. J. Rilus Eastman and Dr. J. H. Ford, with the assistance of Dr. T. Victor Keene, of the health board.

The Indianapolis City Board of Health has recently adopted the following set of health rules governing schools, which will be mailed to each school principal by Dr. C. S. Woods, secretary of the board:

"Any child having a communicable disease shall be excluded from school.

"All children of a household where there is diphtheria, scarlet fever or small-pox shall be excluded from school.

"All children of a household where there is whooping-cough, chicken-pox or mumps may attend school except the child having the disease.

"All children of a household where there is measles may attend school except the child having the disease and the child who has not had the disease."

The following officers were elected at the Indianapolis session of the Indiana State Medical Association:

President, W. F. Howat, Hammond; first vice-president, George F. Keiper, Lafayette; second vice-president, M. L. Hunt, Winchester; third vice-president, T. F. Spink, Washington; secretary, C. N. Combs, Terre Haute; treasurer, D. W. Stevenson, Richmond; delegates to the A. M. A. for two years, J. Rilus Eastman, Indianapolis, and Edwin Walker, Evansville; alternates, George R. Osborn, LaPorte, and W. R. Davidson, Evansville; councilors, First District, W. R. Davidson, Evansville; Fourth District, W. H. Stemm, North Vernon; Seventh District, W. N. Wishard, Indianapolis; Tenth District, George R. Osborn, LaPorte; Thirteenth District, C. A. Daugherty, South Bend.

Dr. Charles H. Duncan of New York City advances the view (*Medical Record*) that in cases of sepsis, vaccination can be accomplished by administering by mouth to the patient a small amount of the discharge from his own wound. The author cites as an example of Nature working by this method the fact that animals lick their wounds and that they never have septic wounds except on the head where they cannot lick them. Autogenous vaccination by the mouth tends to be curative in all stages of sepsis, but is generally prompt in the earliest stages when the germs have not become virulent, and in the later stages when the infected area has been well walled off. The author has used this method for two and a half years with good results. He believes it is the simplest, oldest, and most natural method of curing wounds. It may be used for preventive purposes. The author describes the method of preparation, the doses at various periods of infection, and illustrative cases treated by him.

SOCIETY PROCEEDINGS

THE INDIANA STATE MEDICAL ASSOCIATION

The House of Delegates

The first meeting of the House of Delegates of the Indiana State Medical Association, Indianapolis session, was held in the German House, Wednesday, September 28, at 8 p. m. President Heath occupied the chair and a large number of delegates were present.

The reports of the Secretary, Treasurer and Committees on Pathology, Medical Education, Prevention of Venereal Diseases, Necrology, Preventable Blindness, Tuberculosis, Inebriety and State Medicine, as printed in the September number of The Journal, were adopted.

Following the adoption of the report of the Committee on Medical Education a motion prevailed that the Association make grateful recognition of the gift of Dr. and Mrs. R. W. Long to the cause of medical education by presenting them with a testimonial in the form of an illuminated scroll.

The Committee on Preventable Blindness made a supplementary report as follows:

Mr. President and House of Delegates of the Indiana State Medical Association: Your Committee on the Prevention of Blindness presents the following supplemental report:

"Since the passage of the law as given in our report your Committee has attempted at different times to perfect an organization among the laity looking to its enforcement. Until lately our effort has been futile. However, in the last month your Committee has been greatly encouraged by correspondence with Professor Cecil North, of the Department of Sociology, of DePauw University, who, unsolicited by us, has volunteered his services in the formation of such an organization. Therefore, your Committee has offered its services and has secured the help, aid and assistance of the American Association for the Conservation of Vision, to that end. The present plan is for the Committee, as its first step, to present an illustrated lecture at the forthcoming meeting of the State Board of Charities and Corrections. From this meeting we hope for the formation of the organization so long anticipated. The Indiana State Medical Association, through its House of Delegates, should endorse the formation of such a society whose aims will be not only to secure the enforcement of our new law for the prevention of blindness, but will take steps to prevent blindness due to other causes. We further recommend that the Indiana State Medical Association appoint a delegate to the forthcoming meeting of the State Board of Charities and Corrections."

Acting upon the recommendation of the Committee, a motion prevailed that the name of the Committee be changed from the present title to the Committee on the Conservation of Vision. Moved and carried that this

Committee become a member of the American Association for the Conservation of Vision, and that a sum of money be appropriated to cover the $5.00 initiation fee and the annual dues of $1.00, in order that the Committee may secure the literature published by the National Committee. Dr. Geo. F. Keiper, of Lafayette, was elected as the delegate to the forthcoming meeting of the State Board of Charities and Corrections.

There was no report from the Committee on Public Health and Legislation by the Chairman, Dr. F. A. Morrison, but in extenuation of this omission, the President suggested that the passage of several bills advancing the work of Public Hygiene, during the last legislature, was sufficient report.

The following amendment to the constitution of the Indiana State Medical Association, having been presented in open meeting at the annual session and having been published twice in The Journal of the Indiana State Medical Asoociation during the year, was put to vote and carried:

"The officers of this Association, except councilors, shall be elected by the House of Delegates on the morning of the last day of the annual session, but no delegate nor councilor shall be eligible to any office named in the preceding section, except that of councilor, and no person shall be elected to any such office who is not in attendance at the annual session, and who has not been a member of the Association for the past two years. The councilors shall be elected by the respective district societies, providing that if any district shall exist without a society the councilor for such a district shall be elected by the House of Delegates." This stands as Article IX, Sec. 3 of the Constitution.

The report of the Committee on Medical Defense as published in the September number of The Journal was read as a whole by Dr. A. E. Sterne, and voted upon section by section. Sections one to nine inclusive were adopted as published. In the discussion of section eight, chapter 1, Sec. 1 of the By-laws was referred to, which defines a member in good standing as one whose annual assessment has been paid to the Secretary of the Association. It was agreed that the date of the receipt of the dues by the Secretary of the Indiana State Medical Association should mark the establishment of a member in good standing. This means that a member who has paid his county medical society secretary is not in good standing until the Secretary of the State Association has received the dues from the county officer.

Section 10 of the committee's report was adopted to read as follows: That the committee of the County Medical Society shall immediately, after an investigation of all the circumstances and facts, transmit its report, with recommendations, to the Committee on Medical Defense of this Association.

Sections 11, 12 and 13, of the committee's report, were adopted as published in The Journal, and

Sections 14 and 15 were adopted to read as follows: That each member of the Committee on Medical Defense of this Association shall be entitled to an honorarium of $10 per diem for services actually rendered while at home, and $30.00 per diem with traveling expenses, if required to go out of town in the investigation of any case or in attendance at court, and that these same fees shall be allowed to expert witnesses under similar circumstances. 15. That the Committee on Medical Defense shall have power to adopt such other rules, not in conflict with the foregoing as in their judgment may seem necessary.

Section 16 was adopted as published.

It was moved and seconded that the report as amended be adopted in its entirety and the motion was carried unanimously. A vote of thanks was extended to the Committee on Medical Defense, consisting of Drs. Kahlo, Sterne and Kimberlin, for their untiring labor and generous donation of their valued services.

A motion was lost to the effect that a committee be appointed to consider early disability and lameness of children and its prevention, it being deemed proper to have this subject included in the report of the Committee on Tuberculosis.

A letter was read from the American Medical Association requesting the Indiana State Medical Association to make a recommendation concerning the advisability of a uniform membership plan so that whenever a member joins a county medical society he will be ipso facto a member of his state medical association and of the A. M. A. A motion was passed that the matter be referred to a committee of three to be appointed by the Chair. Dr. Heath appointed Dr. W. R. Davidson, W. J. Leach and B. Van Sweringen.

It was moved and seconded that the House of Delegates ratify the appointment of Dr. Nettie B. Powell, of Marion, as the Indiana member of the A. M. A. Committee for Public Health Education among Women.

Adjourned to meet Friday at 8:30 a. m.

Chas. N. Combs, Secretary.

The last meeting of the House of Delegates, Indianapolis session, convened at 8:30 a. m. Friday, September 29, with sixty-five delegates and thirteen councilors and officers present, the largest representation from the eighty-three county societies that ever assembled.

The election of officers was the first order of business and resulted as follows: President, W. F. Howat, Hammond; 1st vice-president, Geo. F. Keiper, Lafayette; 2nd vice-president, M. L. Hunt, Winchester; 3rd vice-president, T. F. Spink, Washington; secretary, C. N. Combs, Terre Haute; treasurer, D. W. Stevenson, Richmond; delegates to the A. M. A. for two years, J. Rilus Eastman, Indianapolis and Edwin Walker, Evansville; alternates, Geo. R. Osborn, LaPorte, and W. R. Davidson, Evansville; councilors, 1st District, W. R. Davidson, Evansville; 4th District, W. H. Stemm, North Vernon; 7th District, W. N. Wishard, Indianapolis; 10th District, Geo. R. Osborn, LaPorte; 13th District, C. A. Daugherty, South Bend.

The following petition was presented to the House of Delegates by Dr. George F. Keiper, who was granted the privileges of the floor for that purpose:

To the President and House of Delegates of The Indiana State Medical Association: The undersigned members of the Indiana State Medical Association, interested particularly in the treatment of the eye, ear, nose and throat, petition your honorable body for the creation of a section devoted to the eye, ear, nose and throat:

George F. Keiper	W. J. Leach
Albert E. Bulson, Jr.	Ernest deW. Wales
J. O. Stillson	C. H. McCaskey
George W. Spohn	J. J. Kyle
W. A. Hager	F. A. Chenoweth
E. J. Lent	Will J. Martin
F. F. Mendenhall	H. G. Read
J. L. Thompson	J. E. Nixon
Walter J. Sharp	Edw. Chittendon
R. L. Westover	Frank A. VanSant

John F. Barnhill	L. C. Cline
Charles E. Gillespie	D. H. Richards
C. J. Adams	E. A. Willis
David W. Stevenson	H. B. Hill
Jos. D. Heitgar	A. R. Knapp
F. C. Heath	W. F. Hughes
John Newcomb	F. G. Hackelmann
J. McLean Moulder	C. L. Thomas
Frederick Ruby	George Knapp
C. M. Conger	T. C. Hood
L. F. Page	M. T. Jay

Dr. Albert E. Bulson, Jr., of Fort Wayne, spoke in defense of the petitioners. On motion, duly seconded, the prayer of the petitioners was unanimously granted.

A resolution was adopted governing the election of officers in the future, as follows: When more than two names are being balloted upon the man receiving the lowest number of votes shall be eliminated from the second ballot.

For members of the committee for the administration of Medical Defense a motion was carried to retain the members of the temporary committee, namely, Drs. G. D. Kahlo, A. E. Sterne and A. C. Kimberlin. The original motion instructed the committee to draw lots to determine which one should serve for one, two and three years respectively. An amendment to this motion was carried that the Secretary draw lots to determine this.

Dr. W. R. Davidson, of the committee to report on the A. M. A. plan of uniform membership, made a report recommending the nonadoption of this plan at present, on account of the fact that apparently it would necessitate the collection of at least $8.00 by the county secretary from each member in order to cover the dues of county, state and national associations. The committee further suggested that the question be referred to the district and county societies, and have a report from them by the next meeting. The report was accepted.

Dr. W. R. Davidson moved the adoption of a uniform plan for the collection of County and State Association dues. The motion instructed the State Association Secretary to prepare receipt books, with leaves so arranged that the County Secretary may fill them out in triplicate, the original going to the State Association office, one carbon copy going to the member, and one carbon copy remaining as a record for the County Secretary. He recommended that these books be in sizes of 25, 50 and 100 to correspond with the needs of the different societies. He further recommended that these receipts be numbered consecutively to prevent dispute concerning non-payment, and that the receipt shall have a line for the member's signature on which he will subscribe for The Journal. This latter provision was designed to conform to the postal regulations. This motion was duly carried and Secretary Combs was instructed to carry out the plan.

A motion, made by Dr. Allen Pierson, was carried to have a blank for the delegate's credentials, and that hereafter no delegate shall be allowed to vote unless his credentials are made out on this blank. The Secretary was instructed to send the necessary blanks to each County Secretary in ample time to have them filled out before the annual session of this Association.

The vote of the meeting decided upon Indianapolis as the place for the next annual session.

Dr. F. C. Heath, retiring President, was accorded a unanimous vote of thanks for his zeal and enthusiasm in the work of the Association during the past year.

Adjourned. Charles N. Combs, Secretary.

The Council

The first meeting of the Council of the Indiana State Medical Association, Indianapolis session, was held on Thursday afternoon, September 28, in the German House. Meeting called to order by President Wishard with the following members present: Drs. Wishard, Davidson, Weinstein, Knoefel, Leach, Williams, Kemper, Bulson, Combs. The minutes of the mid-winter meeting were read and approved.

Dr. Albert E. Bulson, Jr., Editor of The Journal, made his report in which he showed that the affairs of The Journal are in excellent condition. In his opinion an Association the size of the Indiana State Medical Association should not attempt to exist without a respectable surplus of money in the treasury to meet contingencies. He voiced the opinion of the Council by stating that the balance from the 1911 collections should remain in the treasury, and that no money should go to the Medical Defense Fund except what was due it from the 1912 dues.

Each councilor made a verbal report of the conditions in his district. All the reports were favorable. In the 13th District Dr. Daugherty stated that Pulaski County would be re-organized, but at present there was no prospect of an organization in Stark County. The Chairman appointed Drs. Weinstein and Williams as members of the auditing committee, with directions to report on the bills at the Friday meeting.

Adjourned. Charles N. Combs, Secretary.

The second meeting of the Council, Indianapolis session, was held on Friday morning, September 29, and was called to order by President Wishard with the following members present: Drs. Wishard, Knoefel, Weinstein, Stemm, Houghland, Kemper, Williams, Osborn, Van Sweringen, Daugherty, President Howatt, Albert E. Bulson, Jr., Editor of The Journal, and Charles N. Combs, Secretary.

A motion prevailed that Dr. Bulson have the stationery printed for all of the officers as he did last year, and that he continue to have the councilor map printed on the back of the letter paper.

Dr. Knoefel introduced a resolution concerning elections which on motion was carried over to the mid-winter meeting for consideration. The secretary was instructed to furnish each member a copy of the resolution before the mid-winter meeting.

The auditing committee reported all bills to be correct. Moved and carried that the report be received, and the following bills were allowed and ordered paid: Councilors' expenses: Drs. Williams, $7.89; Knoefel, $22.10; Van Sweringen, $25.00; Daugherty, $17.00; Weinstein, $6.00; Houghland, $16.15; Stemm, $5.00; Bulson, $8.15; Leach, $17.00; Knoefel, $11.95; secretary's incidental expenses, Combs, $41.56.

Dr. Hougland made a report of the status of affairs in Franklin County, and he was empowered to act along such lines as would secure an harmonious organization in that county.

Adjourned. Charles N. Combs, Secretary.

STATE ASSOCIATION MEMBERSHIP

The following is a list of those who have paid Association dues between the dates Sept. 1 and Oct. 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the September number

includes all those who paid dues to September 1, or up to 2342, inclusive. Errors in name or address should be reported to secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the September number constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address.	County Societey.
2343	J. L. Freeland, City Hospital, Indianapolis	Marion
2344	Frank W. Foxworthy, Board of Trade Bldg.	Marion
2345	Joseph M. Berauer, 1353 Madison Avenue, Indianapolis	Marion
2346	A. S. Jaeger, Newton Claypool Bldg., Indianapolis	Marion
2347	W. T. S. Dobbs, 320 N. Meridian St., Indianapolis	Marion
2348	Paul F. Martin, Willoughby Bldg., Indianapolis,	Marion
2349	J. P. Christie, 1204 East Tenth St., Indianapolis	Marion
2350	W. W. Wadsworth, Muncie	Delaware
2351	Thos. B. Eastman, Indianapolis	Marion
2352	T. Victor Keene, Indianapolis	Marion
2353	H. M. McCracken, Argos	Marshall
2354	Thos. J. O'Neil, Anderson	Madison
2355	F. E. Radcliffe, Bourbon	Marshall
2356	F. N. Murray, West Middleton	Howard
2357	T. E. Courtney, K. of P. Bldg., Indianapolis,	Marion
2358	A. L. Wilson, I. O. O. F. Bldg., Indianapolis,	Marion
2359	Byron McCord, Veedersburg	Fountain-Warren
2360	Leslie Maxwell, Penway Bldg., Indianapolis,	Marion
2361	C. L. Marlatt, 760 Massachusetts Ave., Indianapolis	Marion
2362	A. I. Donaldson, Washington	Daviess
2363	Henry Gers, Washington	Daviess
2364	Daniel W. Bell, Montgomery R. F. D. N	Daviess
2365	Ernest Hollingsworth, Washington	Daviess
2366	S. L. McPherson, Washington	Daviess
2331	(Reissue) W. Bert Siders, Millersburg	Elkhart
2367	R. S. Mitchell, Washington	Daviess
2368	J. W. Carmack, 2400 East Tenth St., Indianapolis	Marion
2369	A. E. Guedel, 509 Prospect St., Indianapolis,	Marion
2370	John D. Garrett, Willoughby Bldg., Indianapolis	Marion
2371	J. K. Hawes, Columbus	Bartholomew
2372	Jno. Siekler, Frankford	Clinton
2373	F. N. Thorpe, Boyeston	Clinton
2374	E. M. Young, Sheridan	Hamilton
2375	Ross A. Cooper, Carmel	Hamilton
2376	K. C. Hershey, Carmel	Hamilton
2377	F. L. Reece, Bicknell	Knox
2378	James Smith, 3026 East Tenth St., Indianapolis	Marion
2379	Wesley Allen, West Newton	Ind.
2380	F. F. Hutchens, 1630 N. Alabama St., Indianapolis	Marion
2381	J. H. Oliver, 422 N. Delaware St., Indianapolis	Marion
2382	Calvin I. Fletcher, 1023 N. Pennsylvania St., Indianapolis	Marion
2383	Harry K. Langdon, Newton Claypool Bldg., Indianapolis	Marion
2384	D. L. Kahn, 107 East 22nd St., Indianapolis,	Marion
2385	John W. Sluss, Newton Claypool Bldg., Indianapolis	Marion
2386	Geo. R. Christian, 2122 Prospect St., Indianapolis	Marion
2387	A. A. Hollinsworth, 3916 East Washington St., Indianapolis	Marion
2388	J. M. Spencer, 2715 East Washington St., Indianapolis	Marion
2389	C. W. Conger, 865 Massachusetts Ave., Indianapolis	Marion
2390	Greeman H. Hibben, Traction Terminal Bldg., Indianapolis	Marion
2391	T. W. Fitch, 725 North Illinois St., Indianapolis	Marion
2392	Daniel W. Layman, Newton Claypool Bldg., Indianapolis	Marion
2393	P. B. Little, Whitestown	Boone
2394	James G. Boswich, Mishawaka	St. Joseph
2395	A. R. Keller, Indianapolis	Marion
2396	Eugene Buehler, Indianapolis	Marion
2397	J. H. Lewis, Indianapolis	Marion
2398	James Egbert, Indianapolis	Marion
2399	D. Clapper, Mooreland	Henry
2400	C. J. Bartlett, Lewisville	Henry
2401	W. L. Weisner, Mechaniesburg	Henry
2402	E. K. Westhafer, New Castle	Henry
2403	W. E. Hendricks, Martinsville	Morgan
2404	Earl K. Pfaff, Mooresville	Morgan
2405	C. F. Pectol, Lewisville	Henry
2406	E. M. Sweet, Martinsville	Morgan
2407	H. C. Robinson, Martinsville	Morgan
2408	E. V. Green, Martinsville	Morgan
2409	H. E. Sharrer, Hammond	Lake
2410	Thos. Grantz, Spencer	Owen
2411	J. E. Morrow, Indianapolis	Marion
2412	E. C. Klein, Indianapolis	Marion
2413	C. K. Stickland, Indianapolis	Marion
2414	L. M. Schneck, Indianapolis	Marion
2415	W. A. Gekler, Rockville	Parke
2416	G. W. Thompson, Winamac	Pulaski
2417	W. H. Thompson, Winamac	Pulaski

REGISTRATION AT INDIANAPOLIS MEETING

The following is a list of bona fide members of the Indiana State Medical Association who registered at the Indianapolis session, Sept. 28 and 29, 1911:

M. T. Jay, Portland.
C. H. Bosenbury, South Bend.
J. H. Weinstein, Terre Haute.
H. J. Pierce, Cloverland.
F. L. Truitt, Indianapolis.
C. F. Neu, Indianapolis.
F. C. Heath, Indianapolis.
H. H. Wheeler, Indianapolis.
C. R. Dancer, Ft. Wayne.
W. O. McKittrick, Plainville.
Maude W. McConnell, Sullivan.
G. W. H. Kemper, Muncie.
C. N. Combs, Terre Haute.
T. C. Kennedy, Indianapolis.
S. J. Young, Valparaiso.
W. F. Clevenger, Indianapolis.
F. A. Vansandt, Bloomfield.
H. A. Allburger, Indianapolis.
H. K. Langdon, Indianapolis.
W. F. Carver, Albion.
P. B. Carter, Macy.
G. Van Sweringen, Fort Wayne.

G. D. Miller, Logansport.
J. L. Beatty, Crawfordsville.
J. C. Burkle, New Ross.
Chas. Stoltz, South Bend.
G. W. Spohn, Elkhart.
G. J. Sandy, Martinsville.
Edgar Cox, Kokomo.
M. H. Williams, Lebanon.
A. H. Schoen, New Middletown.
E. D. Stuckman, New Paris.
H. J. Defrees, Nappanee.
E. M. Corbin, Sullivan.
W. A. Price, Nappanee.
S. C. Darroch, Cayuga.
Henry Ader, Somerset.
G. W. Tucker, Dana.
Baxter Begley, Inglefield.
S. A. Whitsitt, Kent.
V. Shepherd, Dupont.
H. W. Greist, New Castle.
T. G. Smith, Brownsburg.
C. K. Bruner, Greenfield.
Carl Henning, Hanover.
G. R. Osborn, Laport.
J. D. Heitger, Bedford.
W. J. Leach, New Albany.
J. P. Salb, Jasper.
W. H. Stemm, No. Vernon.
A. F. Knoefel, Linton.
J. M. King, Greencastle.
J. P. Ramsey, Vincennes.
G. Pigman, Liberty.
H. E. Gabe, Indianapolis.
W. R. Davidson, Evansville.
J. A. Craig, Greenwood.
J. L. McElroy, Aurora.
A. May, Crothersville.
J. W. Benham, Columbus.
I. M. Sander, Greensburg.
F. B. Wynn, Indianapolis.
David Ross, Indianapolis.
J. E. King, Richmond.
D. W. Stevenson, Richmond.
L. A. Bolling, Kramer.
Claude E. Sims, Kurtz.
D. E. Johnson, Moores Hill.
J. B. Berteling, So. Bend.
H. T. Montgomery, South Bend.
L. A. Hyde, Linton.
E. J. Lent, South Bend.
C. L. Botkin, Farmland.
F. A. Chenoweth, Winchester.
Albert E. Sterne, Indianapolis.
J. P. Galbreth, Burnetts Creek.
V. V. Cameron, Marion.
G. G. Richardson, Van Buren.
W. O. McQuown, Marion.
A. W. Floyd, Marion.
B. Van Sweringen, Fort Wayne.
M. A. Austin, Anderson.
E. T. Dippell, Huntington.
J. F. Dowing, Yorktown.
H. R. McKinstray, Indianapolis.
W. L. Grossman, North Vernon.
W. F. Howat, Hammond.
H. E. Sharrer, Hammond.
T. J. Toner, Gary.
T. W. Oberlin, Hammond.
M. H. Krebs, Huntington.
W. R. Moffitt, Lafayette.
L. L. Whitesides, Franklin.
B. W. Egan, Flora.
Geo. F. Keiper, Lafayette.
J. N. Hurty, Indianapolis.
G. D. Marshall, Kokomo.
T. C. Cochran, Kokomo.
A. L. Marshall, Indianapolis.
A. C. Kimberlin, Indianapolis.
J. R. Ball, Lebanon.
Eugene Buehler, Indianapolis.
T. R. Rice, Petersburg.
G. B. Grim, Petersburg.
D. W. Dryer, LaGrange.
L. F. Hicks, Stilesville.
R. E. Jones, Clayton.
I. E. Perry, Huntington.
Chas. L. Wright, Huntington.
D. R. Ivey, Royal Center.
G. S. Row, Indianapolis.
O. G. Brubaker, Burlington.
S. J. Chittick, Burlington.
T. F. Spink, Washington.
Walter McFadden, Shelbyville.
Samuel Kennedy, Shelbyville.
Will Kennedy, Shelbyville.
Morris Drake, Shelbyville.
A. H. Miller, Russiaville.
W. F. Hughes, Indianapolis.
L. E. Jewett, Wabash.
O. R. Lynch, Peru.
J. H. Eberwein, Indianapolis.
E. E. Padgett, Indianapolis.
A. B. Graham, Indianapolis.
H. S. Thurston, Indianapolis.
F. T. Dubois, Liberty.
C. P. Leuthart, Galena.
E. J. McOscar, Ft. Wayne.
J. A. Sutcliffe, Indianapolis.
M. Thorner, Indianapolis.
John A. Pfaff, Indianapolis.
Bernays Kennedy, Indianapolis.
W. C. Engle, Indianapolis.
W. T. S. Dodds, Indianapolis.
Chas. E. Gillespie, Seymour.
J. D. Moschelle, Indianapolis.
J. H. Bull, Indianapolis.
H. H. Thompson, Noblesville.
J. D. Sturdevant, Noblesville.
Paul F. Martin, Indianapolis.
F. M. Fitch, Indianapolis.
A. E. Guedel, Indianapolis.
P. J. Watters, Indianapolis.
Goethe Link, Indianapolis.
A. B. Knapp, Vincennes.
F. J. Young, Milford.
H. W. Held, Vincennes.
Daniel W. Layman, Indianapolis.
Fletcher Hodges, Indianapolis.
N. E. Jobes, Indianapolis.
Chas. E. Stone, Shoals.
Walter N. Sharp, Indianapolis.
John R. Newcomb, Indianapolis.
L. A. Ensminger, Indianapolis.
J. D. Garrett, Indianapolis.
M. O. Devaney, Indianapolis.
H. H. Sutton, Aurora.
H. T. Fagaly, Lawrenceburg.
E. D. Clark, Indianapolis.
C. L. Marlatt, Indianapolis.
Henry Hendricks, Indianapolis.
C. E. Cottingham, Indianapolis.
Geo. F. Edenharter, Indianapolis.
Theodore Potter, Indianapolis.
T. Victor Keene, Indianapolis.
A. L. Thurston, Indianapolis.
O. P. Terry, Lafayette.
Edgar F. Kiser, Indianapolis.
Alfred Henry, Indianapolis.
James M. Smith, Indianapolis.
A. G. Kimberger, Galena.
J. V. Reed, Indianapolis.
P. B. Coble, Indianapolis.
F. S. Browne, Corinna.
N. A. Kremer, Madison.
F. W. Foxworthy, Indianapolis.
H. M. Winans, Muncie.
Edward A. Willis, Indianapolis.
O. N. Torian, Indianapolis.
C. C. Collins, Roachdale.
J. R. Crowder, Sullivan.
J. E. Cullipher, Indianapolis.
L. W. Fosler, Indianapolis.
Fred R. Charlton, Indianapolis.
B. P. Weaver, Ft. Wayne.
John W. Carmack, Indianapolis.
J. V. Overman, Indianapolis.
J. H. Beach, Lebanon.
Ernest de Wolfe Wales, Indianapolis.
H. J. Weil, Indianapolis.
Ed. B. Ruschli, Lafayette.
Thos. B. Eastman, Indianapolis.
Max A. Bahr, Indianapolis.
J. W. Hill, South Bend.
C. E. Haywood, Elkhart.
R. L. Woodard, Terre Haute.
F. H. Jett, Terre Haute.
Stewart Slocum, Fortville.
E. R. Mason, Bloomfield.
J. M. Cunningham, Indianapolis.
E. J. DuBois, Indianapolis.
S. C. Waters, Middletown.
A. A. Williamson, Marshall.
John F. Barnhill, Indianapolis.
A. S. Jaeger, Indianapolis.
F. T. Dowd, Indianapolis.
J. R. Tracy, Anderson.
P. E. McCown, Indianapolis.
J. W. Eidson, Plymouth.
L. D. Eley, Plymouth.
R. O. McAlexander, Indianapolis.
G. R. Daniels, Marion.
W. E. Thomas, Clarksburg.
E. A. Brown, Indianapolis.
H. G. Gaylord, Indianapolis.
Bernhard Erdman, Indianapolis.
N. E. Harrold, Indianapolis.
G. G. Graessle, Seymour.
G. A. Coble, New Augusta.
E. M. Shanklin, Hammond.
John R. Pearson, Bedford.
H. H. Wier, Indianapolis.
G. M. McCaskey, Indianapolis.
C. L. Ward, Indianapolis.
W. I. Hoag, Indianapolis.
G. B. Jackson, Indianapolis.
F. O. Dorsey, Indianapolis.
L. P. Drayer, Ft. Wayne.
B. F. Hay, Syracuse.
L. W. Ford, Syracuse.
J. W. Emhardt, Indianapolis.
J. M. Berauer, Indianapolis.
C. A. Daugherty, South Bend.
C. H. McCully, Logansport.
G. D. Kahlo, French Lick.
G. F. Holland, Bloomington.
R. S. Chappell, Indianapolis.
J. F. Robertson, Indianapolis.
M. N. Hadley, Indianapolis.
T. Roy Cook, Bloomfield.
E. M. Glaser, Brookville.
J. E. Hiatt, New Castle.
S. E. Earp, Indianapolis.
I. N. Trent, Muncie.
R. E. Repass, Indianapolis.
C. E. Stephenson, Indianapolis.
C. D. Humes, Indianapolis.
T. C. Hood, Indianapolis.
E. R. Sisson, Greenfield.
F. F. Hutchins, Indianapolis.

C. W. McGaughey, Greenfield.
W. S. Coleman, Rushville.
F. H. Green, Rushville.
W. B. Kitchen, Indianapolis.
S. J. Hatfield, Indianapolis.
J. H. Reed, Logansport.
E. W. Burris, Indianapolis.
E. G. Kyte, Indianapolis.
T. J. Dugan, Indianapolis.
H. C. Sharp, West Baden.
D. C. Peyton, Jeffersonville.
C. W. Dowden, West Baden.
L. S. Bear, Vevay.
J. P. Ward, Vevay.
C. Chamberlin, Indianapolis.
J. V. Wilking, Roanoke.
Louis Burckhardt, Indianapolis.
J. N. Hess, New Marion.
Robt. Hessler, Logansport.
F. F. Mendenhall, Elwood.
R. R. Hopkins, Richmond.
T. J. Beasley, Danville.
F. M. Reynolds, Montpelier.
Seth Irwin, Summitville.
O. W. Brownback, Pendleton.
R. E. Brokaw, Portland.
T. A. Kearns, Flora.
Alice B. Williams, Columbia City.
W. H. Dinsmore, Kramer.
F. M. Kremer, St. Magdeline.
R. I. Morrow, Richmond.
G. W. Combs, Indianapolis.
John Kolmer, Indianapolis.
H. A. Moore, Indianapolis.
J. C. Blossom, Richmond.
Geo. Orf, Indiana Harbor.
C. C. Rozelle, La Grange.
Allen Pierson, Spencer.
J. Herbert Willis, Evansville.
Wm. N. Wishard, Indianapolis.
W. G. Swank, Crawfordsville.
Chas. Marvel, Richmond.
W. A. Gekler, Rockville.
E. J. Libbert, Aurora.
D. T. Miller, Terre Haute.
T. O. Armfield, Elwood.
J. L. Thompson, Indianapolis.
J. D. Green, Manilla.
A. J. Lane, Washington.
C. E. Harris, Bloomington.
J. H. Christie, Madison.
Etta Charles, Summitville.
Z. H. Fodrea, Westfield.
W. A. Hollis, Hartford City.
J. G. Hoover, Boonville.
R. J. Peirce, Richmond.
P. E. Trees, Maxwell.
C. C. Copeland, N. Madison.
J. H. Cook, Terre Haute.
B. F. Chambers, Lyons.
J. A. Scudder, Edwardsport.
D. J. Adams, Kokomo.
J. Z. Powell, Logansport.
H. B. Hill, Logansport.
R. C. Shanklin, South Bend.
J. C. Kirkpatrick, Roll.
H. G. Thompson, LaPorte.
I. J. Vaughn, Topeka.
Fred McK. Ruby, Union City.
M. M. Wells, Fairland.
E. E. Long, Shoals.
F. E. Wolfe, Corydon.
W. E. Amy, Corydon.
W. O. Hildebrand, Topeka.
C. J. Cook, Indianapolis.
F. J. Beck, Hartsville.
Curtis Bland, Greensburg.
S. H. Caraway, Indianapolis.
H. B. W. MacDonald, New Castle.
E. E. Parker, Culver.
J. Q. Davis, Indianapolis.
W. H. Thompson, Winimac.
G. W. Thompson, Winimac.
Geo. H. House, Indianapolis.
L. F. Ross, Richmond.
D. B. Smoot, Washington.
E. B. Mumford, Indianapolis.
W. S. Ehrich, Evansville.
H. P. Franks, Muncie.
J. L. Hicks, Arcadia.
A. S. Dickey, Tipton.
C. E. McCord, Fortville.
F. C. Warfel, Indianapolis.
J. R. Montgomery, Owensville.
G. W. Anglin, Warsaw.
D. F. Lee, Indianapolis.
Doris Meister, Anderson.
F. E. Wiedemann, Terre Haute.
Wm. H. Wishard, Charter Member.
W. D. Schwartz, Portland.
G. C. Markle, Winchester.
E. B. Mann, Muncie.
J. T. Wheeler, Indianapolis.
Miles F. Porter, Ft. Wayne.
L. L. Ball, Muncie.
Edwin Walker, Evansville.
U. G. Poland, Muncie.
C. A. Ball, Muncie.
G. W. Bucklin, Muncie.
E. K. Pfaff, Mooresville.
W. W. Wadsworth, Muncie.
A. J. Hostetler, La Grange.
D. H. Richards, Vincennes.
I. C. Lambert, Colfax.
C. G. Rea, Muncie.
H. S. Bowles, Muncie.
H. G. Hamer, Indianapolis.
F. A. Tucker, Noblesville.
Richard Belt, W. Terre Haute.
G. W. Wells, Indianapolis.
E. Ray Royer, West Salem.
W. E. McKee, Tipton.
I. W. Dunfee, Etna Green.
O. D. Hutto, Kokomo.
L. M. Knepple, Kokomo.
A. M. Heyden, Evansville.
J. F. Somer, Vincennes.
Z. U. Loop, Galveston.
H. H. Miller, Galveston.
W. A. Hager, South Bend.
J. R. Hicks, Covington.
W. C. Smith, Rushville.
H. C. Miller, Greentown.
C. G. Viehe, Evansville.
E. G. Blinks, Michigan City.
F. R. Warren, Michigan City.
F. V. Marten, Michigan City.
J. McK. Moulder, Kokomo.
N. C. Hamilton, Kokomo.
E. H. Griswold, Peru.
A. R. Harold, Indianapolis.
W. H. Foreman, Indianapolis.
D. C. Ridenour, Peru.
J. N. Study, Cambridge City.
E. E. Kirk, Spiceland.
E. A. Mills, Miami.
W. R. Johnston, Charlottesville.
Harry Elliott, Brazil.
A. E. Bulson, Jr., Fort Wayne.
D. F. Randolph, Waldron.
L. F. Schmauss, Alexandria.
S. E. Bond, Richmond.
A. W. Dierking, Oolitic.
Morrell Simpson, Bedford.
J. L. Freeland, Indianapolis.
W. A. Fankboner, Marion.
Thos. B. Johnson, Jamestown.
Z. C. Wolfe, Indianapolis.
T. O. Redden, Whitville.
V. C. Patton, Morristown.
Helene Knabe, Indianapolis.
Walter Baker, So. Bend.
Nettie B. Powell, Marion.
B. Rattiff, West Newton.
F. C. Thornburg, Middletown.
J. E. Hall, Alexandria.
C. O. Bechtol, Marion.
S. G. Jump, Selma.
H. M. Lamberson, Connersville.
H. O. Pantzer, Indianapolis.
Ada E. Schweitzer, Indianapolis.
F. C. Walker, Indianapolis.
A. R. Kresler, Rensselaer.
H. E. Grishaw, Tipton.
M. V. B. Newcomer, Tipton.
Chas. A. White, Danville.
O. V. Schuman, Whitley.
S. T. Stout, Upland.
S. R. Clark, Glezen.
J. P. Simonds, Indianapolis.
B. F. Teters, Middlebury.
J. H. Clark, Connersville.
C. E. Laughlin, Evansville.
D. M. Reynolds, Clayton.
C. A. Barnes, Greenfield.
J. S. Gillespie, Greencastle.
B. S. White, Greensburg.
Chas. Cook, Fowler.
H. K. Bonn, Indianapolis.
Mary O. Cromer, Union City.
Jacob Buehler, Indianapolis.
Chas. R. Sowder, Indianapolis.
J. O. Stillson, Indianapolis.
C. P. Runyan, Elwood.
S. W. Boren, Poseyville.
T. W. DeHass, Indianapolis.
E. S. Imel, Petersburg.
T. A. Burkhart, Jasonville.
A. A. Young, Hammond.
O. A. Gray, Spencer.
I. P. Wilson, Scottsburg.
Ernest Cooper, Plainfield.
J. E. P. Holland, Bloomington.
Thomas Gantz, Spencer.
Allison Maxwell, Indianapolis.
H. A. Jacobs, Indianapolis.
Claude Dollens, Avoca.
C. M. Bennett, McCordsville.
J. B. Duncan, Bedford.
I. M. Casebeer, Newport.
E. U. Wood, Columbus.
G. W. Finley, Brazil.
J. H. Lanam, Franklin.
J. T. Raxton, Glenwood.
Geo. J. Cook, Indianapolis.
A. L. Wilson, Indianapolis.
E. A. Rainey, Jolietville.
D. E. Douglas, E. Enterprise.
M. D. Gwin, Rensselaer.
H. A. Beck, Lebanon.
G. T. Williams, Crawfordsville.
Charles M. Ward, Indianapolis.
J. R. Eastman, Indianapolis.
Geo. W. Brown, Loogootie.
F. L. Resler, Amboy.
C. Newforth, Sunman.
E. E. Wishard, Noblesville.
Amos Carter, Plainfield.
E. S. Knox, Indianapolis.
G. H. Smith, Knightstown.
M. R. Combs, Terre Haute.
V. N. Fackler, Dublin.
M. C. Haworth, Noblesville.
Chas. S. Bryan, Vincennes.
John B. Yarling, Peru.
Earl R. Gibbs, Peru.
R. S. Mitchell, Washington.
L. C. Cline, Indianapolis.
W. M. Garretson, Perkinville.
Joseph L. Allen, Greenfield.
Kenneth I. Jeffries, Indianapolis.
P. H. Caney, Vincennes.
Clark E. Stewart, Vincennes.
D. W. Sheek, Greenwood.
Fred A. Denis, Crawfordsville.
W. Enslen, Fort Wayne.

G. D. Greenawalt, Fort Wayne.
B. S. Hunt, Winchester.
L. T. Rawles, Huntertown.
G. Reynard, Union City.
J. H. Ford, Indianapolis.
O. T. Welch, Letts.
Will J. Martin, Kokomo.
Roscoe Chancellor, Kokomo.
O. L. McCay, Romney.
Urbana Spink, Indianapolis.
P. B. Little, Whitestown.
W. D. Hoskins, Indianapolis.
R. F. Banister, Paris.
L. W. Tennant, Larwill.
S. A. Clark, South Bend.
C. H. Tomlinson, Cicero.
D. L. Phipps, Whiteland.
R. L. Wade, Fremont.
J. J. Kyle, Indianapolis.
A. W. Brayton, Indianapolis.
Luella M. Schneck, Indianapolis.
W. R. McDonald, New Augusta.
Irving C. Barnes, Indianapolis.
W. F. Benton, Stockwell.
W. A. Trobaugh, Cutler.
C. R. Schafer, Indianapolis.
S. B. Montgomery, Cynthiania.
H. R. Allen, Indianapolis.
Hugh A. Cowing, Muncie.
C. H. Wright, Yorktown.
A. A. Thompson, Tyner.
Leslie H. Maxwell, Indianapolis.
Emerson Barnum, Manilla.
C. W. Comger, Indianapolis.
J. H. Black, Lebanon.
W. F. Malt, Indianapolis.
S. R. Peacock, Ladoga.
W. L. Jennings, Bridgeport.
W. F. Batman, Ladoga.
S. C. Wagner, Wakarusa.
C. L. Slonakerr, Lesters Ford.
C. H. Bockoven, Bryant.
Geo. Revis, Lafayette.
W. H. Holloway, Logansport.
S. B. Elrod, Henryville.
J. E. Hanna, Noblesville.
David F. Berry, Indianapolis.
J. J. Johnson, Milltown.
G. W. Baylor, Milltown.
J. H. Payne, Julietta.
S. A. Prather, Vincennes.
John Morrison, Lafayette.
J. M. Thurston, Richmond.
James R. Lewis, Indianapolis.
R. C. Peare, Bellmore.
E. O. Lindenmuth, Indianapolis.
Mary A. Spink, Indianapolis.
S. H. Malpas, Indianapolis.
Wilson T. Lawson, Danville.
Walker Schell, Terre Haute.
Jacob V. Baker, Edinburg.
John S. Gibbons, Mitchell.
W. C. Sherwood, Mitchell.
E. L. Perkin, Bedford.
J. K. Hawes, Columbus.
D. H. Swan, Haubstadt.
W. A. Justice, Greenfield.
Jas. H. Brill, Indianapolis.
F. A. Busjahn, Logansport.
G. A. Schultz, Lebanon.
C. R. Strickland, Indianapolis.
D. S. Adams, Beech Grove.
M. F. Gerrish, Seymour.
Tom O'Neill, Anderson.
G. O. Cosby, Elizabethtown.
John C. Armington, Anderson.
C. R. Bird, Greensburg.
I. J. Becknell, Goshen.
L. F. Bills, Atlanta.
H. M. Egolf, Liberty.
B. G. Keeney, Shelbyville.
M. F. Johnson, Richmond.
J. A. Tully, Millville.
J. M. Vanderburg, Albany.
L. T. Cox, Napoleon.
Mary H. Barry, Indianapoils.
M. J. Barry, Indianapolis.
S. G. Smelser, Richmond.
R. W. Sipe, Glenwood.
L. H. Ratliff, Lawrence.
J. F. Brown, Rushville.
W. H. Terrell, Pittsboro.
O. T. Scamahorn, Pittsboro.
F. D. Norton, Columbus.
A. C. Pebworth, Indianapolis.
Martha H. Griffith, Crawfordsville.
Jos. E. Morris, Indianapolis.
Maria A. Jessup, Canby.
D. A. Holliday, Fairmont.
S. B. Sims, Frankfort.
H. H. Smith, Jeffersonville.
J. A. Sipe, Carthage.
J. H. Oliver, Indianapolis.
Hannah A. Graham, Indianapolis.
A. W. Gifford, Tipton.
E. J. Davis, Mooreland.
E. G. Eckhart, Marion.
H. C. Hershey, Carmel.
H. G. Read, Tipton.
J. S. Boyer, Decatur.
L. W. Smith, Wabash.
Allen M. Benjamin, Wilkenson.
F. S. Crockett, Lafayette.
E. A. Hawk, Reedville.
R. C. Townsend, Osgood.
J. E. Nixon, Portland.
J. H. Gaylor, Indianapolis.
L. F. Page, Indianapolis.
C. E. Leedy, Princeton.
J. W. Sluss, Indianapolis.
W. H. Butler, Columbus.
J. P. Tourner, Bloomington.
L. A. Wilson, Michigan City.
J. T. Dukes, Portland.
Geo. B. Morris, Poneto.
E. D. Tillman, Osgood.
H. C. Parker, Indianapolis.
J. C. Trueblood, Loogootee.
H. H. Hutcheson, Indianapolis.
C. C. Hickman, Yeoman.
C. Titus, Harrington.
A. D. Ayres, Indianapolis.
W. R. King, Greenfield.
B. A. King, Cicero.
C. L. Ritter, Indianapolis.
T. W. Moorehead, Terre Haute.
I. M. Perkins, Pennville.
O. C. Lukenbill, Indianapolis.
J. V. Bomer, Indianapolis.
Will Shimer, Indianapolis.
Robt. H. Wagoner, Colburn.
Charles Sudranski, Greencastle.
J. W. Parrish, Shelbyville.
J. D. McLeay, Indianapolis.
J. T. Oliphant, Farmersburg.
L. O. Carson, New Augusta.
D. S. Wiggins, New Castle.
G. Bell, Indianapolis.
E. R. Westhafer, New Castle.
L. W. Jordan, Wabash.
O. C. Weier, Indianapolis.
N. W. Clark, Rosseville.
Chas. Chittich, Frankfort.
H. H. Beckman, Indianapolis.
J. K. Ritter, Seymour.
D. C. Peters, Greentown.
Jos. Egbert, Indianapolis.
Paul F. Robinson, Indianapolis.
Bruce Fleetwood, Linton.
A. W. Tucker, Logansport.
A. P. Roope, Columbus.
H. Lohrmann, Indianapolis.
R. C. Ottinger, Indianapolis.
Jno. F. Loomis, Madison.
L. H. Eshleman, Marion.
R. W. Terhune, Whiteland.
H. E. Washburn, Clinton.
H. J. Heistand, Pennville.
Harry Williamson, Marion.
F. E. Abbett, Indianapolis.
J. R. Hume, Milroy.
F. L. Mitchell, Everton.
W. S. Dow, Indianapolis.
G. W. Miller, E. Chicago.
D. D. Van Osdal, Rushville.
C. E. Ferguson, Indianapolis.
E. A. Carlson, Madison.
E. C. Loehr, Noblesville.
Vance May, Washington.
W. W. Tucker, Greencastle.
Wesley Allen, West Newton.
S. W. Hervy, Fortville.
C. S. Hougland, Milroy.
W. R. Hutcheson, Greencastle.
H. E. Green, Crawfordsville.
Paul J. Barcus, Crawfordsville.
C. E. VanMatre, New Castle.
R. M. Thomas, Greensburg.
Geo. I. Inlow, Blue Ridge.
Thos. B. Noble, Indianapolis.
W. J. Molloy, Muncie.
T. E. Hill, Muncie.
A. T. Kemper, Muncie.
S. L. Strickler, Boggstown.
H. G. Nehrbas, Winona Lake.
W. R. Boal, Bicknell.
Milo Gibbs, Greenfield.
C. N. Howard, Warsaw.
T. J. Shackelford, Warsaw.
J. F. Smith, Brazil.
C. C. Campbell, Walton.
R. H. Leavitt, Terre Haute.
W. R. Mattox, Terre Haute.
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J. A. MacDonald, Indianapolis.
H. L. Fulenwider, Indianapolis.
P. L. Mull, Oldenburg.
L. L. Williams, Brazil.
J. P. Christie, Indianapolis.
Ward A. Smith, Otterbenc.
Jane L. Ketcham, Indianapolis.
C. G. Beckett, Attica.
C. J. Finney, Attica.
Thos. Macer, Evansville.
Chas. C. Haskell, Indianapolis.
A. T. Custer, Linton.
C. A. Spitler, Saratoga.
Thos. P. Govan, Corydon.
F. G. Hackleman, Rushville.
Boaz Yocum, Coal City.
T. R. Barker, Danville.
J. F. Barker, Danville.
M. F. Fisher, Markle.

HUNTINGTON COUNTY

Meeting of September 6

The Huntington County Medical Society met in regular session September 6 at Huntington. Drs. R. C. Galbreath, of Huntington, and Cotton, of Elwood, were visitors.

Dr. J. M. Hicks, president of the society, read a paper on "The Relation of the Physician to Society." He stated that the blame for the presence of the irregular practitioners is in the profession itself, due to the lax methods of diagnosis and treatment.

Dr. S. V. Wilking, of Roanoke, opened the discussion, by stating that the laity too often class the physician with the merchant.

Dr. Cotton advocated that the patient should be required to pay for advice concerning prophylaxis as well as for medical and surgical attention.

Dr. C. H. Good reported that the prevailing diseases of the month were tonsillitis, muscular rheumatism, and an epidemic of diphtheria.

Dr. M. H. Krebs presented a resolution advocating the appointment of a committee to confer with the proper school authorities, and urge the adoption of medical inspection of school teachers and school children. The resolution was adopted and Drs. Krebs, Taviner and Chaffee were appointed as a committee.

Adjourned. R. Q. Taviner, Secretary.

Meeting of September 20

The Huntington County Medical Society met at Markle September 20. Drs. J. L. Redding, of Wells Co. and A. H. Shock, of Huntington, were visitors.

The Committee on Medical Inspection of Schools requested that since no appropriations had been made to cover the medical inspection of schools for the school year of 1911-12, the Huntington County Medical Society donate its services for such period of time. This was agreed to by proper resolution.

Dr. W. F. Smith, of Huntington, read a paper on the subject, "Medical Ethics," in which he made particular mention of the proper relation between physicians in regard to fees. He stated that all physicians should charge fees according to the fee bill, but if any one did work for charity it should be done as such and not for less fees with the hope of getting new practice or retaining the old. Discussion opened by Dr. A. H. Northrup, of Markle.

Dr. C. S. Black, of Warren, read a very interesting and concise paper on "Acute Nephritis." Dr. Black stated that after cold and exposure scarlatina is the most frequent etiological factor. The presence of albumin for three months or longer indicates that the condition has progressed into the chronic stage. As treatment he recommended absolute rest, sweating as much as strength permits, and venesection in the presence of convulsions. Discussion opened by Dr. M. F. Fisher, of Markle, who stated that the best diuretic is water.

The society extended the profession of Markle a vote of appreciation and thanks for the royal entertainment provided. These meetings with the members of the profession in the outlying districts of the county are highly enjoyed by all as it brings the members in closer touch with each other.

Adjourned. R. Q. Taviner, Secretary.

Meeting of October 4

The Huntington County Medical Society met in regular session October 4.

The society accepted the proposition of the Huntington School Board to inspect the school children of Huntington for one year. The Committee on Medical Inspection of School Children is empowered to appoint a member of the society to make such inspection.

A committee was appointed to revise and print a fee bill.

Dr. R. S. Galbreath, a graduate of Northwestern, was elected to membership.

Dr. E. W. Poinier, of Andrews, read a very able and interesting paper on "The Management of Pneumonia in Children." The paper discussed first the bronchopneumonia of infants and second the lobar pneumonia of children over three years of age.

Adjourned. R. Q. Taviner, Secretary.

KOSCIUSKO COUNTY

The September meeting was held on the 26th inst. There was an interesting informal discussion of infantile paralysis, there having been three cases reported from the eastern part of the county.

Dr. G. W. Anglin reported on the current magazines.

Dr. W. C. Landis, Claypool, read a paper on "Diagnosis and Treatment of Angina Pectoris." Discussion by Drs. Young, Heffley, Murphy, Anglin and Thomas.

Motion carried that the president shall appoint the 1912 committees at the October meeting.

Adjourned. C. Norman Howard, Secretary.

MADISON COUNTY

The Madison County Medical Society met in regular session in the Public Library in Anderson September 26, at 2 p. m., with president J. E. Hall in the chair. Dr. F. G. Keller read a paper on "Ilocolitis with Purpura Complications." This was the largest and most enthusiastic meeting of the year.

Adjourned. Etta Charles, Secretary.

NOBLE COUNTY

The Noble County Medical Society met in regular session in Albion September 19. Meeting called to order by vice-president at 1 p. m. The society devoted one-half hour to the memory of Dr. E. W. DePew, whose death occurred June 17. After the reading of the obituary by the secretary, short talks were made by Drs. Green and Hays, of Albion, Nye and Tucker, of Cromwell, and Gilbert, of Kendallville.

Dr. Miles F. Porter, of Fort Wayne, read a very able paper on the subject "Diseases of the Thyroid," sketching the evolution of the treatment down to the present time, including original work done by himself in treatment by injection of boiling water.

Dr. I. J. Becknell, of Goshen, read a paper entitled "Some of the Most Common Heart Lesions and their Treatment." The subject was treated in a masterly manner, and demonstrated a thorough study of the pathology as well as a profound knowledge of the therapeutics of these trying cases.

Dr. Charles S. Stewart, of Auburn, read a paper on "The Prevention of Mastoiditis." The author laid great stress upon the responsibilities and opportunities of the general practitioner, and emphasized the fact that proper treatment in common colds and influenzas would be effective in preventing mastoid involvement in a great many cases.

Dr. Don Johnston, of Kendallville, read a concise paper on "Carbon Dioxide Snow—Its Uses in Dermatology." He demonstrated the making and using of the snow, and exhibited a patient recovering from epithelioma of the face as a result of this treatment.

On motion the papers of Drs. Becknell and Stewart were referred to The Journal for publication.

Dr. Don Johnston was received into membership in the society, and Dr. Hardy, of Kendallville, made application for membership.

Adjourned. W. F. Carver, Secretary.

ST. JOSEPH COUNTY

Meeting of September 11

The society met in regular session September 11, with Dr. Bosenbury in the chair. Minutes of previous meeting read and approved. Ten members present.

Dr. Terry read a paper on "Diseases of the Upper Abdomen." Discussion general.

Committee on special annual meeting reported that they have invited Dr. Chas. Mayo and that he can be present November 17. The president of Indiana University and Dr. Clark are also invited. Dr. Hill made motion that the special annual meeting for 1911 be held on November 17. Carried. Motion made by Dr. Berteling that the Society purchase Kemper's Medical History of Indiana and place the copy in the city library (medical section) was carried.

Motion carried that the program committee be retained and that they make out program as heretofore.

Adjourned. R. C. Shanklin, Secretary.

Meeting of September 18

Society met in regular session September 18, with Dr. Mitchell in the chair. Members present thirteen. Minutes of previous meeting read and approved.

Dr. W. H. Backer discussed "Topography of the Abdomen," and presented slides and a patient to demonstrate his points. Discussion general.

Dr. Berteling offered the motion that the society appoint a library committee of three to look after the interests of the medical section in the city library. Carried.

Adjourned. R. C. Shanklin, Secretary.

Meeting of September 25

Society met in regular session September 25 with Dr. Bosenbury in the chair. Minutes of previous meeting read and approved.

Dr. Gammack reported case of obstetrics with double uterus and suspected double pregnancy. Five weeks ago patient was confined and delivered normally up to end of second stage. Some hemorrhage and placenta found to be adherent; removed by hand. Improvement slow. Later decided to curet and at the operation found double uterus. Will report later if the pregnancy is double or if some other pathological condition exists.

Dr. Mitchell reported case of primipara; normal labor, though an eight month pregnancy. Credé method of placenta expulsion. Next day headache and cramps in abdomen, and twenty-six hours after delivery had first convulsion. Patient blind, unconscious, urine contained albumin, granular casts and blood. Pulse 86, blood-pressure 150. Chloroform and ½ grain doses of morphine had little effect. Curettement was done but nothing found; slight loss of blood, perhaps eight ounces. Eight ounces of blood withdrawn. No improvement and blood-pressure 170. Next morning twenty minims of veratrum and ½ grain of morphin were given hypodermically. Pulse was soon soft and dropped to 80; no more convulsions. Case now well. What produced the cure?

Dr. Miller read a paper on "The Value of Pain in the Diagnosis of Abdominal Pathology." Discussion general.

Dr. Shanklin introduced the following resolution:

"*To the President, Councilors and Members of the St. Joseph County Medical Society:*

"Whereas, It has been found by actual practice that our present constitution is too cumbersome, and that it has defects and needs revision; be it

"*Resolved*, That a committee of three be appointed by the president to revise the present constitution and submit such revision to the Society as provided for in Article XI, Section 1."

Motion adopting the resolution seconded and carried.

Motion offered by Dr. Daugherty that Dr. Baker act as alternate delegate was carried.

Dr. Lent made motion that committee be appointed to investigate the plan for a Physicians' Protective Association and report. Carried.

Adjourned. R. C. Shanklin, Secretary.

UNION COUNTY

The Union County Medical Society met in regular session Wednesday, October 4, for a combined scientific and social session. The members and their wives sat down to an elaborate banquet at 6 o'clock at the home of Dr. Dubois. Dr. E. R. Beard acted as toastmaster. The following men responded to toasts: Dr. Hawley, of College Corner, "The Physician's Wife," and Dr. Pigman, "Sociability." At 7:30 the scientific program was presented in the Commercial Club rooms. Dr. Dubois read a paper on "The Use of Tuberculin," Dr. Egolf on "Enlargement of the Prostate," and Dr. Crocker on "Professional Progress." At 8:30 the members and ladies again assembled at the home of Dr. E. R. Beard, where the rest of the evening was spent in a social way.

Adjourned. W. A. Thompson, Secretary.

WHITLEY COUNTY

The regular meeting of the Whitley County Medical Society was held September 12. Dr. Wheelock, of Fort Wayne, read an interesting paper on "Infections Arising from Tonsils." Dr. D. S. Linvill presented a paper on the subject "Typhoid Fever." Dr. Alice Williams discussed the subject "Treatment of Typhoid."

Dr. F. M. Magers, of Churubusco, was chosen to serve as vice-president for the remainder of the year. The regular day of meeting was changed from the first to the second Tuesday of each month.

Adjourned. Alice B. Williams, Secretary.

BOOK REVIEWS

What to Eat and Why. By G. Carroll Smith, M.D., Boston, Mass. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $2.50 net.

This volume treats of the fundamental elements of food and the principles underlying its use, the essential reasons why a change of diet in certain diseases is desirable and how this change may be made in the most practical, time-saving way. It is not an elaborate treatise upon the subject of dietetics and chemistry of foods.

The author calls particular attention to the principles underlying dietetic treatment, which principles if properly understood gain the confidence of patient and lead to their adoption.

There are a few diet lists given in a very comprehensive manner so that such food may be administered as the various attending symptoms indicate. The work will evidently be of great assistance in the practical application of dietetic treatment.

Progressive Medicine. Vol. XIII, No. 3, Sept. 1, 1911. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Prof. of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, Assisted by L. F. Appleman, Instructor in Therapeutics, Jefferson Medical College, Philadelphia. Lea & Febiger, Philadelphia and New York. Cloth, pp. 328. Six Dollars per annum.

The first section of this volume concerns the diseases of the thorax, including the heart, lungs, and blood-vessels, by Ewart who believes that the tuberculosis dispensary "plus tuberculin" offers the next and most practical advance in the tuberculosis campaign. His discussion upon the subjects pertaining to the cardio-vascular system is particularly full and interesting.

In his section on dermatology and syphilis Gottheil gives much space to a consideration of "606" as elucidated by experience up to date.

It seems a little strange that Davis in the chapters on obstetrics, when considering the subject of pernicious nausea of pregnancy, ignores so completely the useful part in its treatment often experienced from thyroid extract. He devotes considerable space to very creditable reviews of the subjects of eclampsia and obstetric surgery.

Spiller's section on diseases of the nervous system, though short, is, as usual, well done.

Diagnostic Methods. Second edition revised. A treatise on diagnostic methods of examination. By Prof. Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathaniel Bowditch Potter, M.D., Asst. Professor of Clinical Medicine, College of Physicians and Surgeons, New York. Octavo of 1229 pages, containing 472 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth $6.50 net; half morocco, $8.00 net.

In this new second revised edition several mistakes of the first translation have been corrected, more editorial comments, diagrams and cuts have been added, although the context remains much the same as is incorporated in the last German revision of this comprehensive text.

The chapters on icterus and edema have been largely rewritten and a new section added on the cutaneous electric resistance, of especial significance in exophthalmic goiter.

Especially deserving of mention are the chapters on hemodynamics, arteriosclerosis, and further studies of cardiovascular conditions, including a description of some of the newer instruments, as Jaquet's cardio-sphygmograph, Mackenzie's polygraph, Runne's sphygmograph holder and the author's own appliance for sphygmographic purposes of vertical writing. Emphasis is laid upon the necessity of studying the pulse volume elicited by a consideration of both the maximum or systolic, and the minimum or diastolic pressures. The chapter on venous pulse has been thoroughly revised.

Additions have been made to the sections on diagnosis of diseases of the stomach and the intestines, and the author takes occasion in a foot-note on p. 375, to pay his respects to what he considers the all-too-frequent diagnosis of appendicitis in cases of ileo-cecal pain which he considers as not infrequently due to back pressure on the ileo-cecal valve from stasis of the bowel contents. "The present blind zeal for operation" in such conditions he declares to be "inconceivable to the scientific minded physician, and disgracing the name of medical science."

The sections on the blood and examination of the nervous system contain many additions. The subject of urinalysis has been enlarged so as to include a rather exhaustive study of the various proteins.

The antiformin method for the detection of tubercle bacilli in small numbers, is described.

Perhaps the greatest criticism of the work is its volubility and the emphasis laid upon his own views by the author. There have been 300 pages added, the cuts increased from 291 to 389, and the plates from 5 to 7. Plate I, that of typical rose spots of typhoid is beautifully done, and especial emphasis is laid by the editor upon their diagnostic value when present.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, M.D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

This excellent work should fill a gap that has been the creation of the last decade of years, the time in which cystoscopy has come to be recognized as one of the most valuable and accurate diagnostic measures at hand.

Never until the introduction of the cystoscope did we have any exact method of study for the urinary tract, but now, as is remarked by the author, doubtless many exploratory operations have been saved by the introduction of this instrument of precision.

In this book one finds described all the various forms of cystoscopes in use at present, the indications for, technic and results of cystoscopy. Combined with the carefully written text are profuse illustrations, cuts and plates so faithfully done as to make one feel, on perusal of the volume, that he is in the hands of a thorough teacher whose familiarity with his subject is so patent as to make the book almost a clinic in itself.

While the book, of course deals mainly with the subjects of cystoscopy and ureteral catheterization, yet other well-tried diagnostic measures are in no wise belittled, and emphasis is laid on the importance of obtaining all possible data on lesions of the genito-urinary tract, some of which are exceedingly obscure at best.

The necessity for ureteral catheterization with a stilleted catheter in the diagnosis of supposed ureteral lithiasis by means of the Roentgen ray, is well shown by the phlebolith pictures on pages 246-7.

The work ends with a conservative consideration of the therapeutic uses of the cystoscope, the value of which, in selected cases, is indubitable.

The printer's work is beautifully done, as shown by the large, easily legible type, clear-cut illustrations and beautiful plates. That the author's work is equally well accomplished will be shown by the hastiest sort of perusal.

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ORIGINAL ARTICLES

THE TOXEMIA OF PREGNANCY *

G. VAN SWERINGEN, M.D.
FORT WAYNE

A recent case of this disease has prompted the writing of this paper. A brief review of the literature and a report of the case follow.

We understand by toxemia of pregnancy that condition which exists within the body of the pregnant woman, brought about by the advent of pregnancy, which produces some change in the process of metabolism the cause of which we are ignorant of, but which may produce symptoms which vary from moderately increased salivation to eclampsia; the former representing the mildest grade and the latter the most severe type of toxemia.

The most important work on auto-intoxication (and it would seem that the toxemia of pregnancy is an auto-intoxication) is that of Oliver and Bouchard. In 1897 Bouchard said: "From absolute increase of normal matter, or the production of abnormal, intoxication may be developed. . . . Substances the most essential to the constitution of the body may become hurtful when they accumulate. . . . The most important excrementitous material — carbonic acid — could not be retained in the organism a few minutes without death being the consequence. . . . The biliary acids also, if they do not find a free escape outwardly, produce fatal poisoning." All the soluble ferments elaborated by certain glands can exercise a poisonous influence, either local or general. We find even in certain secretions — in saliva for example — products extremely toxic, which are not ferments. This toxicity is partly due to alkaloids.[1]

Stone, Strauss and Ewing teach that albuminuria, vomiting of pregnancy, yellow atrophy of the liver and eclampsia, are all manifestations of the disturbed metabolism, and should be grouped together under the heading of toxemia of pregnancy. Experimental studies have furnished important evidence that the thyroid and parathyroid are concerned in the toxemia of pregnancy. Foulkrod and Ward have reported excellent results with thyroid extract in these cases.

For many years attention was directed to the urine, in the hope of isolating the poisonous product which was responsible for this condition. It was found that in pregnant and non-pregnant women poisons of an unknown nature were constantly present. If the metabolism of the body is properly performed, the urine is rich in poisons, and this urine when injected into animals, causes convulsions and death. The blood-serum of patients from whom this urine comes was found non-poisonous.[2]

It was at one time thought that every eclamptic patient had a diminution of the urea output. If urea is formed, poisonous substances are not, and hence a high percentage of urea indicates good general metabolism and excretion, but it is not a reliable index to the danger ahead in a toxemic case as the history of the case reported in this paper will demonstrate.

The December issue of the *Journal of Obstetrics* contains a very interesting article by M. C. Winternitz and Ansley of Johns Hopkins Hospital, on "The Catalytic Activity of the Blood in the Toxemias of Pregnancy," which sheds additional light on the condition of the kidney in some of the cases of the toxemia of pregnancy. These observers remark that "In the hope of being able to demonstrate the presence or absence of renal insufficiency in various types of toxemia

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1. Oliver and Bouchard.

2. Davis.

of pregnancy, we have determined the catalytic activity of the blood in a number of such cases."

Catalase is an enzyme, of universal occurrence in animal tissues, which is characterized by its power of decomposing hydrogen peroxid into water and molecular oxygen. Moreover it has been shown that in renal insufficiency the ability of the tissues of the body to bring about such decomposition is always diminished. Consequently patients may be divided into two groups, namely, those presenting normal catalytic activity and normal renal function, and those with decreased catalytic activity and probable renal insufficiency. Time will not permit of a detailed account of the manner in which these tests are made.

Their conclusions are interesting and are given verbatim: In patients suffering from the various forms of nephritis our experience justifies the following conclusions:

1. Despite the presence of marked nephritis, provided there are no symptoms of renal insufficiency, the catalytic activity of the blood will be irregular from day to day, and will tend to assume a lower level than normal.

2. In acute mercurial nephritis the catalytic activity of the blood is diminished.

3. In uremic coma there is marked fall in the catalytic activity of the blood, which continues if the condition ends fatally, but which rises should the coma disappear.

4. Retention of urine, due to obstruction in the lower urinary tract, is associated with a marked decline in the catalytic activity. This may persist for some time but will rise again should the obstruction be removed.

The determination of the catalytic activity of the blood appears to offer a means of differentiating the toxemias of pregnancy into two groups. In certain instances the catalytic activity shows no departure from normal; these include cases of eclampsia and other toxemias without marked renal involvement. In certain other cases the catalytic activity of the blood is decreased; these include patients suffering from chronic nephritis in whom the increased work thrown on the kidneys by the pregnancy brings about renal insufficiency, as well as cases of true eclampsia and other toxemias with marked renal involvement.

Stranganhoff and others believe that toxemia of pregnancy is of an infectious nature. It has been held that one attack confers immunity, to a slight degree; that the severity of the disease differs at various periods, depending on certain hygienic conditions, such as overcrowding of the population. Stranganhoff also believes he has seen direct evidence of transmission from mother to child. The evidence in support of this opinion seems lacking and the majority of observers place little credence in it.[2]

Attention has been directed to the study of peptone in the urine as indicating toxic processes. It has been found that peptone in excess indicates probable fetal death and may occasion suspicion of toxemia, but is of little significance otherwise.[2]

Duhrssen has laid much stress on the retention of creatin and creatinin by the kidneys of the pregnant patients; both substances are capable of producing irritation of the brain by circulating in the vessels of the cerebral cortex, but evidence is not at hand to attribute all the symptoms of the toxemia of pregnancy to these substances.[2]

The influence of syncytioma malignum on the production of the toxemia of pregnancy is interesting. In this connection the report of Harris and Davis of the case of pernicious nausea of pregnancy, in which an abortion became necessary — (the patient became almost maniacal and perished of exhaustion; post-mortem examination revealed syncytial growths in the liver, lungs, kidneys and brain. The uterus had escaped involvement) — is of more than passing interest, for it is known that the office of the syncytial cells normally is to maintain the body of the pregnant woman in a condition of immunity from toxins.[2] It would seem that the origin of these toxic substances is principally from the intestines, with the liver as a close second.

Bordhead, in the *Journal of Obstetrics,* reviewing this year's progress in obstetrics, quotes Ewing on the pathogenesis of the toxemia of pregnancy, tells us that all efforts to discover a specific poison in the fetus, placenta, or blood have failed and some other conception of the disease must be found. He believes that eclampsia can only arise in an organism long prepared for it by disturbances of metabolism and associated organic changes, and if there is any single distinguishing causative element in eclampsia, it is to be found in the nephritis and not in the specific poison from the fetus, placenta or uterus.[6]

The observations of Budin and others show that "prolonged constipation greatly increases toxemia and that Nature endeavors to partially protect the patient by causing the drying of retained feces, thus rendering their absorption more tardy; when salines are given to pregnant and constipated patients, retained fecal matter is dissolved, fresh absorption occurs, followed by temporary rise of temperature and often by sweating."[2] These symptoms usually subside when the intestine is emptied.

6. Journal of Obstetrics.

Fothergill and Stenhouse report a case of hepatic toxemia showing increased hepatic dulness, tenderness over the region of the liver, absence of bile from the stools, but freely present in the urine. Recovery was complete after the uterus was emptied.[4]

The pathology of the toxemia of pregnancy is as meager, nearly, as our knowledge of the causes of its production. About the most important changes are seen in the liver and are of a destructive nature such as might be expected to follow a prolonged absorption of an intensely irritating and poisonous substance. In a recent case, where Cesarean section was made in order to attempt to save the child of a moribund eclamptic mother, the liver revealed post mortem a condition of yellow atrophy, which permitted the finger, after penetrating the capsule of the organ, to pass in any direction almost without obstruction. Microscopically a normal liver cell was not to be found. The kidneys presented a condition of cloudy swelling and a total anuria was present for thirty-six hours preceding death. In a case of suicide from phosphorus the same condition of the cellular elements was present, but to a less marked degree owing to the fact that the condition had existed only a few days.

In 1886, Jurgens and Klebs pointed out the existence of hemorrhagic hepatitis in certain cases of eclampsia. These consist of irregular shaped, reddish or whitish areas scattered through the entire organ in the neighborhood of the smaller portal vessels, readily noted by the naked eye, presenting a mottled appearance of the liver. They are areas of necrosis.[5]

Of the pathologic findings in the brain in eclampsia, much has been written; edema, hyperemia, anemia and apoplexy, having been found. "Prutz noted edema in 42 per cent., hyperemia in 35 per cent., and apoplexy in 13 per cent., while the brain was apparently normal in only 10 per cent. Thrombi of the smaller cerebral vessels have also been found.[5]

Of eclampsia, Williams says: "Accordingly it must be assumed that the essential feature in the morbid process is the circulation of some as yet unknown toxic substance in the blood, which gives rise to lesions of varying intensity in the several organs."

Williams makes the following classification of the "toxemias of pregnancy:" acute yellow atrophy of the liver, nephritic toxemia, preeclamptic toxemia, eclampsia and pernicious vomiting of pregnancy. As the case we are about to report comes under the latter class we will devote the balance of our time to a consideration of that type of cases.

Nausea and vomiting occurring in the early weeks of pregnancy is present in one-third of all pregnant women, usually coming on at about the sixth week and ending about the middle of pregnancy. Many women do not suffer from this condition at all, others only moderately and still others only very slightly, yet they all come within so-called physiologic limits.

According to Peck and Lwow pernicious vomiting occurs once in 1,000 cases. Williams believes that it occurs about once in several hundred cases. The neurotic women of France seem to suffer to a greater extent than those of other countries. Unlike the simple morning sickness, pernicious vomiting is an extremely serious condition and frequently leads to a fatal issue, no matter how treated.

The following report is, I think, a typical case report of a case of pernicious nausea and vomiting of pregnancy.

Case Record

Mrs. H. O., aged 29 years. Housewife. Family history negative. No children. Personal history: Never had any illness except an attack like the present one three years ago, which lasted about eight weeks, abortion finally coming on spontaneously. Recovery slow. Physical examination: Chest negative; uterus slight retroflexion which righted itself; pelvis negative; hemorrhoids.

First consulted me Oct. 8, 1910, for nausea and vomiting which had lasted for four weeks, coming on mostly in the morning. The vomitus at this time contained no undigested food particles, but the nausea continued practically all of the day. On several occasions she vomited a full meal taken when the nausea was absent and the vomiting was of an explosive nature. Accompanying the vomiting and nausea there was present headache (frontal), vertigo, pain in the back and legs; constipation was quite marked and there was considerable intestinal fermentation with gas production. There was also aggravated salivation. She being two months pregnant the case was considered one of exaggerated nausea and vomiting of pregnancy, with perhaps the nervous element most pronounced. She was taken to the hospital and given a modified Weir-Mitchell treatment. Attention was paid to elimination, i. e., hot packs, free catharsis and alkaline drinks with plenty of H_2O. A mild diuretic mixture was administered because of the lessened urinary secretion. She improved greatly on this method of treatment, and at the end of ten days or two weeks she was able to leave the hospital feeling much better and having periods of days when the nausea was absent. The urine at the

4. American Text-Book of Obstetrics.
5. Williams' Text. Obst.

time she was in the hospital contained acetone in marked quantities but otherwise it was negative; when she left the hospital the urine was negative in every particular. The bowel function became normal, headaches vanished. The blood-pressure during this time remained at 115 mm. of mercury. She was directed to pursue the same course of treatment at home that had been used at the hospital. At the end of four days she was returned to the hospital with every symptom markedly exaggerated. Her pulse tension rose to 125 mm.; pulse 90 and temperature normal; marked constipation; relative anuria, nausea constant and vomiting more frequent, in spite of which she took and retained some nourishment for an hour or two at a time, but with great gastric distress; headache became pronounced, requiring morphin a time or two for relief. Bismuth, oxalate of cerium, magnesia calcined, bromids, iodin and cocain were given in an effort to control the nausea and vomiting spells, without effect, and rectal feeding was used, which answered well for a time. Pulse remained at 95 to 100; temperature normal up to this time and the tension remained at 125 mm. After a few days the rectum became so irritated that it was impossible to continue the nutritive enemata and only an occasional normal saline injection would be retained. Bromids by bowel were rejected. The vomiting became almost constant and blood-stained, then very decidedly colored by blood. All efforts at medication were of no avail save an occasional hypodermic of morphin to produce an hour or so rest. The pulse increased in frequency — 120 — and the temperature reached 99.5 F. and the patient began to present violent nervous symptoms. The urine presented increased acetone, nucleo-albumin and hyalin casts. The urea was 2 per cent. It was then decided that to empty the uterus was the only thing which promised any hope of relief. She was delivered by accouchement forcé under ether of a twin pregnancy at 3½ months. The fetuses were macroscopically normal and the conception was a duo-pregnancy. Sections of the placenta were normal microscopically. Aside from a period of three days in which the pulse ran riot and rapidly, she made an uneventful recovery. The vomiting stopped, the headache disappeared, the pulse and temperature returned to normal and on the third day she began to take food and relish it. The nervous symptoms required a few doses of bromids for relief and to induce sleep. Following the operation a few days it was noticed that there was some tremor remaining, and coupled with the rapid heart action and exaggeration of the normal prominence of the patient's eyes, it occurred to me that perhaps an exophthalmic goiter might be in the process of development; or that the cause of our pernicious vomiting in this case might have been due to an hyperthyroidism or that an hypothyroidism might have been present throughout the toxemia and an hyperthyroidism developed following the emptying of the uterus as has been noted by several observers. I am now satisfied that nothing of the kind remains in this case.

It has been suggested that thyroid extract be used in cases of this kind but the presence of the thyroid symptoms did not present themselves until after the uterus was emptied and it did not seem indicated early in the case. But I shall use it in the next case that presents such symptoms. I am living in hope that I shall never have another case of this kind.

928 Broadway.

DISCUSSION

Dr. A. Pierson, Spencer: This paper, being a review of the literature of the subject, and secondly, a report of some cases occurring in the doctor's practice, it seems to me requires but very little discussion, very little discussion that comes within the limits of this meeting. The opinions of the various investigators that he has quoted will bear discussion, but that is without our jurisdiction at this time.

Now, I only have one criticism to make. It seems to me that the title of the paper should be changed. Instead of saying "Toxemia of Pregnancy" it should be the "Toxemias of Pregnancy." There are certainly more than one toxemia of pregnancy. I do not believe there is any toxemia peculiar to pregnancy that cannot be found under other conditions. We all know that changes in the blood of the pregnant woman are pretty well known, and while in some respects it resembles the blood of the anemic, in others it is very different; while the red corpuscles are fewer in number, they are of a healthy character. The character of the blood of a pregnant woman is such that she is better able to resist disease than at any other time.

Dr. G. B. Jackson, Indianapolis: The doctor has covered the ground very thoroughly. As has been suggested by Dr. Pierson, we must look on these poisons in pregnancy as probably not all the same. They vary considerably from the very mildest to the most pernicious form we see anywhere in the province of medicine. We are particularly interested, I presume, in the pernicious type of toxemia. The doctor reported a case of pernicious vomiting, which he treated in a way that is probably the consensus of opinion of the best men of to-day, and that is by emptying the womb. With it empty we know that we do not get the toxemia of pregnancy. We know the best results are gotten when the womb is empty.

I believe the Italians are responsible for the theory of thyroid in toxemia. Of course there are a good many different theories as to the cause. We are not prepared to accept or reject any of them. It is very likely, as the doctor has just

suggested, that there are different forms of toxemia. We know very little about the toxins generally. There probably are different forms of toxemia of pregnancy. All we know about it is that it represents a lack of balance in the metabolism of the individual, whether this is effected through the perverted action of the thyroid or whether produced from wandering cells. Against that latter theory is the fact that we rarely see toxemia anything like the toxemia of pregnancy in any of the malignant growths. But we won't enter into a discussion of these different theories at any length. I have been impressed by the theory of the thyroid by a recent case.

An elderly primipara, 36 years old, consulted me about six weeks before her time for confinement. In her history she said that she had always had a nervous heart. She presented comparatively normal conditions except that her pelvis was slightly small, she had a thyroid enlargement and a pulse running 90 to 100. The urinal findings were negative. We took her to the hospital at the time of the expected delivery. She went along in labor for a few hours. I had examined the urine repeatedly and found it negative. Suddenly, when the cervix was not fully dilated but perhaps half way and the internal os comparatively large and the cervix soft — I was impressed by the fact that it was especially so for an elderly primipara — she threw a convulsion. By the way, the examination of the urine at that time, in fact, a few hours before, had shown a sudden increase of albumin. This albumin had appeared and increased considerably within six hours. She had a very hard convulsion and others followed, and we hurried her to the operating room and did an accouchement forcé, in spite of the fact that she was a primipara, and we had very little trouble in doing the manual dilatation and the high forceps operation. Since that time — this woman is still under my care — has been for four months — since that time she has had a pulse running anywhere from 100 to 130, a marked tremor and marked enlargement of the thyroid. I am not sure about the eye-findings. I have not been able to demonstrate the least change in the position of the eye. It well illustrates the changes the doctor has in his case. I am sure she has a myocarditis and I think I am sure she has a Basedow.

Dr. C. E. Ferguson, Indianapolis: The paper emphasizes as well as it can be emphasized our ignorance of the cause of this terrible disease, coming on us so suddenly, many times when it is least expected, because our patient may have given no warning until some time probably in the latter months of pregnancy, we are confronted with eclampsia. The patient suddenly without warning develops a spasm, and this spasm is followed by another unless firmly treated. The question opens up, not only the cause of it, but the treatment. From Dr. Van Sweringen's paper we might be led to infer that all cases of pernicious vomiting might lead to compulsory evacuation of the uterus. In my consultation practice in a number of cases in the last two years one of the most difficult things I have had to do was to oppose the doctor in his desire for the evacuation of the uterus immediately and at the same time satisfy the husband and the family that I was doing right in being conservative. And yet I worried probably as much as the physician or the husband as to whether I had done the right thing; but in two cases where the vomiting was pernicious for a number of weeks, where the rectum had rejected all food and where the patient was in that nervous condition where she could get no sleep at all, I found that the simple administration of 20 to 30 grains of chloral, repeated later perhaps once more during the night given with an enema of hot milk would give the patient a rest, and after a few days, much to our surprise, the patient began to get better. Now, this is not the treatment for every case for a cure, but fortunately in two cases where the vomiting was so severe that I was just on that ragged edge we all get into sometimes to determine what to do, these patients came out and went on to term, giving birth to live children without any convulsion at the time of the birth. These, of course, are fortunate cases, but the difficulty that I want to emphasize is to make up our minds when to do this. We may wait too long, or we may do an unnecessary abortion. The most interesting cases to me are those cases of eclampsia that come along about the seventh or eighth month, where, according to the examination of the urine as given me by several physicians who had called me in consultation in these eclampsia cases, there had been no albumin shown at all in the most recent examinations. The treatment of these cases is a matter of discussion among those whom we regard as authority, some insisting that immediate evacuation of the uterus is the only thing for the trouble, insisting that accouchement forcé or any of the radical operations are the necessary cures for this. Accouchement forcé is, of course, a terrific thing to add to the woman's already nervous condition. The Cesarean section, both vaginal and abdominal, is being advocated. The general practitioner must do the operation of the accouchement forcé. This, of course, may add to the woman's nervous condition, and throw her into one or more convulsions. In three cases of eclampsia that have occurred in my consultation practice in the last two years, two are living and one is dead, with the peculiar anomaly that the woman who died left a living child at seven months, the result of an accouchement forcé, while the other two cases developing at the seventh month gave birth to dead children, and the mothers are both living. These last two

cases were treated expectantly. That is, I did not produce an abortion. I did not attempt any radical operation, either Cesarean, vaginal or abdominal, but used the treatment that I became acquainted with under Dr. Herman, in London. Those who are acquainted with his work, especially on difficult labor, will remember that he says he had tabulated the cases from all hospitals from which he could gather statistics, and that the immediate evacuation of the uterus is attended with a larger death-rate than if the patient is treated expectantly. Now, his treatment is chloral and morphia. In eclampsia some think it will kill the mother. If you have a nephritis, it will kill the mother. If not, it will quiet the mother as nothing else will do. He gives morphia in enormous doses. On the onset of the spasm when he is called he gives one-half grain of morphin and if she has another, repeats it with another. He answers the question as to the danger of stopping up the eliminating organs by saying that it is more than offset by the dilatation of the blood-vessels and the checking of the metabolism. In these two cases I have had recently, I have used morphin up to the extreme with the result that the patient had no more convulsions, although they had a history of five and six and the fetus died, and within ten days after the cessation of the spasms, the women gave birth to stillborn children.

Dr. G. G. Graessle, Seymour: Dr. Ferguson's suggestion of being conservative in these cases has brought to mind a case I saw in my practice and the final outcome of this case led me to be more careful in future cases of that kind. It was a case of a woman about 26 years of age, a woman that desired motherhood. She apparently developed an ordinary case of morning sickness, but later it became of a malignant character. The usual remedies were tried, iodin and cocain, and all those things, with at times more or less temporary benefit, but it was not very long until she was unable to be out of bed, and indeed, to raise her head from the pillow. Well, it began to look like something would certainly have to be done for her. She was living in the country and emptying the uterus was considered and rejected owing to the surroundings. Well, the case just had ordinary care, no special nurse on it, and we advised waiting and waiting and waiting, until finally it became so discouraging that finally the case was referred to Dr. Woodman of Chicago, and she was sent to the Western Hospital, and while they were waiting for her to regain her strength a little bit so that her uterus could be emptied, she suddenly developed peritonitis and died in a few days. Well, they thought it was strange that she should go that way. A post-mortem was made and we found two necrotic areas in one side of the interior of the uterus, and it was at once shown that this patient by some means or other, although she had in the start desired pregnancy, had become so depressed and so mentally affected by the pernicious vomiting that she had resorted to means of emptying the uterus herself, and brought about her death. If you do wait in these cases for a long period of time, they should have very careful watching and very close attention to prevent anything of that kind.

Dr. M. F. Porter, Fort Wayne: Mr. Chairman, I did not intend to discuss this paper. I enjoyed it very much. It is a subject, however, that I have been rather more than usually interested in lately, especially in relation to this and similar conditions due to the function of the thyroid. It might at first be thought by some to be rather far-fetched to consider the thyroid with either puerperal eclampsia or any of the toxemias of pregnancy, but if you will stop to think that in some of the lower invertebrates the thyroid gland opens into the uterus and only reaches its full development and remains active only during the active sexual life and becomes inactive after the sexual life is past — I say, if you will call all of these facts to your mind, you will see why it is that theoretically we come to the conclusion that there is a close relationship between the thyroid activity and the activity of the genital organs, and a study of clinical facts will add more. The thyroid gland enlarges during menstruation and during pregnancy.

I recently had a case of hemorrhage. It was about the term. I regarded the case as a most serious one. I removed the patient to the hospital. I naturally concluded that the hemorrhage came from inside the uterus and decided to empty the uterus, but found that she did not have any fresh hemorrhage, did not have enough hemorrhage to produce the symptoms that we had had in this case. We put the patient to bed and she was delivered of a stillborn child that had evidently been dead for twenty-four hours. I was sent for in a hurry. I found no trace of hemorrhage. She was restless and had a nervous heart. She was very perceptibly thyroid. She was suffering from some symptoms before she had any hemorrhages.

These things that I have said are suggestive more than anything else. There was another case which I happen to know of — a pernicious vomiting that occurred in a woman that had been aborted by a physician at one time and another time had spontaneously aborted because of the toxemia, that came into the hospital for toxemia again. The attending physician gave her large doses of thyroid extract. Whether it was because of it or not, I know not, but I do know that this woman, who had been aborted twice, went out of the hospital carrying her child. She had been treated by the administration of thyroid extract. The question is of practical importance, I think, from a clinical standpoint. By clinical observation we probably will arrive as quickly if not

more quickly than we will by laboratory work at a decision on this subject. Whether an individual suffering from hyperthyroidism is really suffering from an increased activity of the thyroid gland or suffering from a perverted activity is a question. We can make close observation regarding clinical facts in relation to this subject, which is a very interesting one.

Dr. G. B. Jackson, Indianapolis: I have not used this chlorid at all, but I have seen some reports that it gives valuable results. We have increased blood-pressure in some of these cases of pernicious vomiting, but in most of the cases it is very low and adrenalin chlorid benefits it, and is of some benefit to the patient from that.

Dr. Van Sweringen, Fort Wayne, (closing): I have known of vaccinating patients by means of serum from a former case of pernicious nausea, after the method of Hirst of Philadelphia, and with some success.

THE JUSTIFICATION OF EARLY PROSTATECTOMY *

F. H. Jett, M.D.
TERRE HAUTE, IND.

Sir Henry Thompson[1] read a paper before the Royal Medical and Chirurgical Society in 1879 on suprapubic drainage for prostatic retention. In the discussion which followed, a Mr. Trevan said: "Is it not justified in certain cases to endeavor to remove the cause of the complaint? Removal of prostatic tumors has been done and is really not a dangerous operation." This statement by Mr. Trevan met prompt denial by Sir Henry when he closed the discussion. Mr. Trevan perhaps had in mind two prostatic tumors which had been removed and reported by Thomas Bryant[2] in 1878 and in the latter he states that the results were good and that the symptoms of both stone and prostatic retention were relieved.

The first deliberate attempt to carry out the conclusions of Mr. Trevan was when Belfield[3] did a suprapubic prostatectomy in 1886. Reginald Harrison reported twenty cases in the *Lancet* in 1886 but these were done by perineal section and a partial removal only was intended. Buckston Browne[4] on March 7, 1889, removed 4 ounces of prostatic tissue. His report indicates that entire removal was intended.

Although several had done the operation before him, McGill[5] of Leeds, in 1887, was the first to widely advocate the excision of the obstructing parts by the suprapubic method.

Prostatotomy was first performed by Guthrie[6] in 1834. He used a catheter with a concealed blade. There were several so-called improvements on this method until we come to that introduced by Bottini in 1873. He used a cautery and his method was perfected many years after by Willy Meyer,[7] Wishard[8] and Young.[9]

Lithotomy was popularized about the end of the seventeenth century by Jaques and was made worthy of the name by Cheselden early in the eighteenth century. Prostatectomy is the legitimate child of this operation. The prostatic tissue was excised during these early operations because it obstructed the removal of the stone. this naturally suggested the partial and complete removal of the prostate for its own symptom-complex, without a stone being present.

There seems to have been considerable operating for this disease subsequently, much of which was done by inexperienced, indiscriminate and unskilled surgeons who failed in some essential details of technic. This received its just reward in bad results and we find the operation discredited and marked as dangerous in the early nineties even by such a master as Guyon. From 1890 to 1900 we had the historical nightmare of castration, vasectomy and electrolysis.

Perineal prostatectomy was developed by Goodfellow (1891), H. Morris (1895), Ferguson (1901), Syms (1901), Murphy (1902), Young (1903), Proust (1903) and others.

Freyer,[10] in 1901, read a paper before the Royal Surgical Society wherein McGill's technic was modified so that the gland was taken out complete and the capsule was not disturbed. At least this was the intention. Many have claimed that they originated this operation, including Fuller[11] and Watson. Perhaps they did, but it was Freyer's able paper based on a sufficient number of well-studied cases that gave the necessary publicity to a neglected operation.

All that had gone before gave to us an accepted operation for prostatic retention but we were taught that it should be done as an operation of necessity. Operations of necessity are very easy for medical men to comprehend and all agree on the operation. There are no tears shed at the necropsy for the man would have died anyway. All surgical procedures have passed through this

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* Read before the Indiana State Medical Association at Indianapolis, Sept. 28, 1911.

1. Brit. Med. Jour., June 7, 1879.
2. Med. Times and Gaz., Feb. 16, 1878.
3. Jour. A. M. A., 1887, viii, 303.
4. Brit. Med. Jour., May 18, 1889.
5. McGill: Tr. Clin. Soc. London, 1888, xxi, 52.
6. Guthrie: Anatomy and Diseases of the Neck of the Bladder and of the Urethra. Quoted by Deaver, Enlarg. of Prostate, 1905.
7. Meyer, Willy: New York Med. Rec., 1898, p. 323.
8. Wishard: Jour. Cut. and Gen. Urin. Dis., 1902, p. 245.
9. Young: Jour. A. M. A., 1902, xxxviii, 86.
10. Freyer: Brit. Med. Jour., 1901, ii, 125.
11. Fuller: Jour. A. M. A., 1904, p. 1450.

stage and there is no reason why this operation should be an exception. The operation done under these conditions taught the surgeon that he could remove the prostate at this time but he could not remove the damage that had been done by the diseased gland. What was more logical than to remove the prostate before the injury had been done and make it an operation of choice? Operations are performed for the benefit of the patient, not for a low mortality nor to show the brilliancy of the surgeon. We do the surgical thinking for our patients and if they are wise they will follow the advice. An unjustified operation is the unpardonable sin of a surgeon. Unjustified delay is due to ignorance, the caution that is taught medical men or a case not well studied. The kindergarten question of every surgical case is: *Are you justified in operating or are you justified in delay?* There is nothing surprising that when a dying prostatic case was taken to the table and he died from the anesthetic, the surgeon would, in his next case, insist that the patient be able to stand the operation. This gave us the surgery of selected cases and the men who selected their cases had a mortality low enough to brag about. It was learned from these cases that good surgery did not need to wait for the sign-board of death to come with the patient but that operations are justified for health and happiness as well as to prevent the deadly sequelæ that follow delay.

Much has been written about prostatectomy but little to convince the medical man that this is a prophylactic operation and should be done early.

Let us see if we can justify delay in these cases by considering the objections that have been offered:

First. The patient may get relief from the catheter life!

Unless there is infection there is little use for the catheter and catheter cases nearly without exception become infected. The great, grand and glorious ally of cystitis is the so-called catheter life.

You know that at least 85 per cent. of appendix cases recover without operation.[12] It is also a fact that 15 per cent. of enlarged prostates prove to be malignant. Does it not follow that if you use a catheter and wait to make a positive diagnosis of cancer of the prostate, then the operation will not cure and you will lose as large a number of your prostate cases as you would in unoperated appendix cases? The way to cure malignant disease is to suspect, operate and make the diagnosis positive with the microscope, or not to suspect its malignancy, operate and have the agreeable report that you have removed an early cancer.

You remember the man who used a catheter for twenty years. Do you also remember the number of cases that came to you because they had to get up several times a night, received their catheter and died a few years after of some kidney lesion? The god of reason has less to criticise you for if you advise your case of appendicitis not to be operated, than if you give your patient this instrument of destruction, trusting to the deity that he may be another who can use it for twenty years and later operate on a sclerotic, anemic, emaciated, cystitic, pyelonephritic, dribbling or retentive old man who has the symptoms of death rather than those of prostatic disease: this as a last chance a few years after beginning a catheter life.

When a man starts to use a catheter for prostatic disease he should adopt it as his occupation, for this with the necessary mode of life will take most of his time. He should also be well enough provided with worldly possessions to allow him to follow this as his sole occupation.

I believe that the hypodermic syringe is less dangerous in the hands of the unskilled than is the catheter. It was intended to be used by some one with training and it is your duty if you select the catheter life for your patients, to use it for him and have him pay you for it. It will pay him if he cares for his health.

Second. The patient is old.

Was the patient old when he first consulted you? Just about 55 years. At least this is the time most of them come to us. Is this too old to operate for gall-stones? Amputate a leg? Remove a tubercular kidney? Do an appendectomy? Gastrojejunostomy? I think not! The real reason is that the retention and cystitis are too old.

Third. The patient has only a few years to live!

The insurance companies have what they call their table of expectation and this shows that a man of

40	will live	28.2 years
50	will live	20.9 years
60	will live	14.1 years
70	will live	8.5 years
80	will live	4.4 years

The expectation of life in patients treated by catheterization has been said by Harrison[13] and

12. Osler's Modern Medicine, v, 429.

13. Harrison: Surgical Diseases of the Urinary Organs, London, 1887.

by Lydston[14] to be no more than four or five years.

In a paper read by Judd[15] before the American Medical Association in June, 1911, reporting 542 cases, about one-half (268) were between 60 and 70 years old when operated. He also makes the statement that the average duration of symptoms was about six years. Drawing an average in these cases of 65 years and deducting the six years of symptoms, would make these cases come to an early operation at 59 years. This according to the table of expectation leaves the man 14.7 years to live and is certainly worth while. In a series of cases (146) reported by Young about one-half were between 60 and 70, so the cases by Judd are at least not the exception.

Fourth. The kidneys are bad!

There may be bad kidneys in any case from birth to death no matter what the age. It is a contra-indication in prostatic cases just as it is in all surgical disease. Prostatic hypertrophy alone will not cause bad kidneys. They are the result of retention and cystitis, which are caused by a neglected prostate. I am convinced that few of these men have bad kidneys when they first consult a doctor. The life history of these cases many times reads: prostatic hypertrophy, retention, doctor, catheter life, cystitis, nephritis or pyelonephritis, uremia and death.

Fifth. The operation destroys the sexual life!

This to my mind is a real reason and I have no argument with the medical man who catheterizes his patient, keeps him with a clean bladder and preserves this function. I have no pity for the man who will not pay his doctor for this frequent surgical operation and I am afraid to mention my opinion of a doctor who will allow this function to be jeopardized by the unskilled. Many times, however, with the acme of skill it will be necessary for man to choose between his life and this function. Then it is your duty to have him under observation that you may advise him early enough.

I think that all operators will agree that while prostatectomy is dangerous to the vita sexualis, impotence is less likely to follow a technic which conserves the sheath and prostatic urethra. This does not mean that the operation must be perineal or suprapubic but it does mean that the sheath and floor of the prostatic urethra must be let alone. There are cases where the prostate and sheath are quite adherent, usually the result of prostatitis in the earlier life of the man. To remove the prostate in this man means many times the removal of the prostatic urethra, ejaculatory ducts and considerable of the sheath. This spells destruction to the sexual function.

Young claims for his operation that a large per cent. of his cases do not lose this power. Lillienthal[16] reported thirty-one cases by suprapubic method and remarks that in no instance was the sexual power lessened but actually increases in numerous instances. You will note that one of these gentlemen is working by the perineal and one by the suprapubic route.

Queer, but nevertheless true, a practitioner will advise a salpingo-oophorectomy no matter what the age, but will throw up his hands in holy horror when an operation is mentioned that may desex a man. There is more danger and more inconvenience in prostatic retention than from diseased tubes and ovaries.

It is a happy thought that most cases requiring prostatectomy are of such an age that they have lost their sexual power and that many times it exists more in the mind than in the body.

Sixth. The operation has a high mortality!

Many reports do not mention such a thing as malignant disease and no doubt several are included. The thing that impresses one in going over these cases is the small number of deaths due to the operation. Some few are reported from hemorrhage but oftener it is a repetition of uremia, pus kidneys and shock. The operation is generally considered and done when nothing else will save the life of the patient and it is easy to see that they are poor surgical risks. If you study these cases you will notice that many of them required suprapubic drainage before operation. This means that the case had been neglected.

Miles F. Porter[17] in a study of 485 cases says that the death-rate of the operation is less than 2 per cent., while the death-rate from conditions secondary to the enlarged prostate is 3.5 per cent. In other words there are more deaths from delay than from the operation.

Deaver at one time made the statement that all cases of appendicitis should be operated. This statement was somewhat wild when considered in a strictly scientific way, and has since been qualified by him. His qualification applies to those cases that are not seen early enough. This as a rule is the fault of the patient and not the surgeon. We have only to look into prostatectomy to understand that prostatic cases are not operated because they are seen too early by the doctor. I believe that cases of retention due to prostatic obstruction operated at the time they

14. Lydston: Phil. Med. Jour., 1902, x, 92.
15. Judd: Jour. A. M. A., 1911, p. 458.
16. Lillienthal: Ann. Surg., 1905, xli, 535.
17. Porter: Jour. A. M. A., May, 1908.

first need treatment will give as low a mortality as appendectomy, the age notwithstanding.

	Suprapubic	Deaths	Perineal	Deaths
Munro[18]	0	0	33	1
Syms[19]	0	0	33	2
Goodfellow[20]	0	0	105	2
Murphy[21]	0	0	51	0
Ferguson[22]	0	0	103	4
Young[23]	0	0	400	13
Young[23 1/2]	0	0	50	4
Wiener[24]	0	0	10	0
Albarran[25]	0	0	35	1
MacGowan[26]	0	0	28	4
Fuller[27]	0	0	18	1
Horwitz[28]	9	2	39	6
Cabot[29]	12	3	25	0
Judd[30]	140	15	323	14
Thomas[31]	13	2	2	0
Lillienthal[32]	20	2	...	..
Pilcher[33]	23	2	...	..
Deaver[34]	23	3	...	..
Moynihan[35]	12	1	...	..
Freyer[36]	644	39	...	..
Walker[37]	8	0	...	..
Total	904	67	1,255	52

Total number of cases	2,159
Mortality, suprapubic	7.4%
Mortality, perineal	4.1%
Mortality, total cases	5.5%
Number of operators	20
Young's mortality	3.8%
Freyer's mortality	6. %
Judd's mortality	6.2%

18. Munro: Jour. A. M. A., 1904, p. 1453.
19. Syms: Jour. A. M. A., 1904, p. 1454.
20. Goodfellow: Quoted by Ferguson, Am. Jour. Urol., April, 1911.
21. Murphy: Jour. A. M. A., 1904, p. 1408.
22. Ferguson: Am. Jour. Urol., 1911, p. 146.
23. Young: Jour. A. M. A., March, 1910.
23½. Young: Surg., Gynec. and Obst., 1911, xiii, 269. Additional cases.
24. Wiener: Ann. Surg., 1905, xli, 540.
25. Albarran: Quoted by Deaver, Enlarg. Prostate, 1905.
26. MacGowan: New York Med. Jour., 1903.
27. Fuller: Jour. A. M. A., October, 1902.
28. Horwitz: Jour. A. M. A., 1904, p. 1453.
29. Cabot: Am. Jour. Urol., June, 1906.
30. Judd: Jour. A. M. A., 1911, p. 458.
31. Thomas: Brit. Med. Jour., May, 1905.
32. Lillienthal: Ann. Surg., 1905, xli, 535.
33. Pilcher: Ann. Surg., 1905, xli, 565.
34. Deaver: Am. Jour. Med. Sc., 1904, cxxviii, 1.
35. Moynihan: Ann. Surg., 1904, i, 1.
36. Freyer: Brit. Med. Jour., 1909, p. 963.
37. Walker: Surg., Gynec. and Obst., 1907, v, 450.

There are a considerable number of men who are past middle age who do the "kidney walk" several times each night. Not all of these have prostatic enlargement but all cases that have enlargement which obstructs belong to this class.

I am not a believer in snap-shot diagnosis but think that all methods of arriving at the true condition should be used. In bladder and prostate examinations we may use, rectal palpation, catheter, urinalysis, sounds, cystoscope and *x*-ray, and it is a pity that the general man cannot have at his command everything from an eye speculum to a high frequency current, but as sad as it is, it is true. Many times it is better to make a diagnosis by a simple method and accept it as true unless you can prove it untrue by the more elaborate methods. Given a case with a history correct, pass a catheter (better with a coude curve), if it meets with an obstruction or is hard to pass the trouble is perhaps due to some other condition, but if the catheter passes easily and you find residual urine this, in the majority of cases, means prostatic enlargement of a kind that requires treatment. I am well aware that rectal palpation is generally mentioned as the one procedure for this diagnosis, but it is not the one best guess. You are to make a diagnosis of a prostate which obstructs. A hypertrophy as large as the end of your thumb placed in the right position may give a world of trouble while a large one may give no more trouble than the lipoma on the next man's back. It does not help to find a large gland but it is important to know if it causes urine to be retained. When you find this kind of obstruction it is your duty to treat the man and inform him that it is a serious affair.

There is a medical treatment for this disease, much as it is neglected. The hygienic treatment is very important, and you also have intermittent dilatation, massage, rectal and bladder irrigation and systematic catheterization. When this man passes beyond medical treatment, then is the time for prostatectomy.

Who would say that an operation which would give a man two healthy kidneys in exchange for two pus kidneys is not justified? This will apply to all sequelæ of prostatic obstruction. When cases are operated early the kidneys are conserved, the cystitis is prevented, the bladder is not overworked and damaged, the general condition of the man is not undermined by absorption of urine, the man is the best operative risk he will ever be, and except the necessary risk imposed on all well-planned operations, your patient is left with his normal expectation of life and I have neglected to mention the state of well-being and happiness which will gladden the ripening years of the man's existence.

For the operation you have several methods, such as the various sorts of suprapubic, and the perineal with its numerous incisions and the gland dissection through the urethra or transcapsular. Don't let this senseless controversy about the different kinds of operation cloud your consistent conclusion. They are all good when done by someone skilled in the operation selected. More skilled, however, is the surgeon who trains his case for the operating room, lets the type of gland select his method of operating and who carries out the very important after-treatment.

Prostatectomy is justified. Early operation is a prophylactic kidney and bladder operation and will give a low mortality with a happy result.

Swope Block.

COMMON CAUSES AND TREATMENT OF DIFFICULT LABOR *

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Since no physiologic process is attended with so much physical suffering as that of child-birth, and since it is and always will be a condition to be reckoned with by the family physician as a rule, I feel that a consideration of the subject should be of interest to us.

The question may arise, is the art of obstetrics keeping pace with the probably greater strain brought to bear on the women of to-day, due to our higher, or overcivilization as it may be aptly termed as applying to some of our women? Are the present day women becoming better prepared to bear normal, healthy children with less suffering, or, are they from social or economic reasons, lowering their efficiency and making child-bearing a more severe thing, to be dreaded on account of the suffering and sacrifice it entails?

It therefore becomes a duty as well as a sacred privilege for the family physician to do all in his power to make motherhood a condition to be sought after rather than dreaded.

Conditions are rapidly changing. Improved hygienic regulations are limiting certain formerly often-met diseases, and it is not unreasonable to surmise that the time is not far distant when typhoid, malaria, diphtheria, scarlet fever and small-pox, as representatives of our most dreaded and serious diseases, will be only occasionally met with. However, nervous, digestive and nutritional diseases, I believe, are on the increase, and will have their effect on the mothers of to-morrow. While therefore our labors in infectious diseases may lessen and reduce our earnings, we recognize the fact that in spite of the race suicide scare there is not likely to be any very marked reduction in the birth-rate for a generation at least, and that the physician who keeps thoroughly equipped for obstetric work, who earns a reputation as a safe and sympathetic accoucher, who will always do all in his power to relieve undue suffering, in so far as it is consistent with the best interests of both mother and child, I say, such a physician will always have a place in the world, and will find work to do, and his mission and ministrations will be fully rewarded by the gratitude of the mothers-to-be.

It is not the purpose or even hope that this paper will enlighten those present on the common causes and management of difficult labors, but merely to review, as I take it, some of the most common elements and conditions that enter into these cases commonly met, to the end that we may be mutually benefited.

The border line between physiological normal labor, and pathological labor, is often difficult to determine. Practically all labors might be called difficult. I purpose to consider only the common cases that vary quite appreciably from the normal.

What shall we regard as difficult labors? I believe all labors which are unduly protracted, unusually painful, or require some active interference with forceps or otherwise, to bring about a safe delivery for mother and child within normal limits, should be regarded as difficult.

There is much comfort and satisfaction in the knowledge that a very large percentage of women will, without active assistance or intervention, pass through labor without undue suffering or complications. On the other hand, I imagine we could all relate numerous experiences when we have almost sweat drops of blood in our effort to relieve some of our complicated cases.

Let us consider first those elements which affect the pregnant woman, and which tend to make her delivery difficult or easy.

Prophylaxis has its place here as elsewhere in medicine, and the physician's responsibility begins as soon as he is notified that his services will be required at the termination of pregnancy. Too often a physician's services are not requested until late in pregnancy, if at all before labor has begun. We should educate the people against the dangers of this common form of procrastination. The expectant mother should be taught to observe regular habits of proper exercise, sleep and rest, and how to keep her eliminative organs, bowels, kidneys and skin in good condition, on which so much depends in the pregnant woman. If these organs perform their functions well, waste products will not accumulate, toxemias will be infrequent, and the nutrition of the mother and fetus will not commonly be disturbed. In brief, we must recognize the fact that any element which lowers the muscular tone, nerve force, or vitality of the mother, is likely to make labor more difficult for her. Her expulsive forces will be reduced on account of imperfect nerve stimuli and weak and atonic muscles. The expectant mother must also be taught the evils of tight lacing, high heeled shoes and other fads of fashion which may be injurious. Tight lac-

* Read before the Indiana State Medical Association at Indianapolis, Sept. 28, 1911.

ing, by crowding down the pelvic organs and interfering with their circulation and restricting their power to functionate properly, cannot be otherwise than harmful.

This leads up to what I believe the most common cause of difficult or prolonged labor, namely, uterine inertia. Uterine inertia is the most prominent factor in from 6 to 10 per cent. of all labors, and is an element to be considered in probably a much greater percentage. Pelvic deformities, as rare conditions sufficient to cause serious distocia, will be excluded from the causes in this class of cases.

In the early stage of labor a rigid os from old cicatrices or other causes may soon tire the uterine muscle after a period of fruitless contractions. More often, doubtless, insufficient innervation or stimuli, and consequent weak uterine contractions, are the common causes of delay.

Overdistention of the womb in varying degrees, due to excessive liquor amnii, is a factor in uterine inertia too often overlooked, I believe. This condition, which overstretches the uterine muscular fibers, naturally weakens their contractive power, and labor pains may be weak and ineffectual or the pain may be out of proportion to the expulsive forces of the uterine muscle. This condition can usually be readily determined by the excessive size of the womb and the free mobility of the fetus and ballottement.

Occasionally, but fortunately quite seldom, we find a condition of hydramnios or very excessive amount of liquor amnii, but the condition is too rare to be classed with common causes of difficult labor.

Where we find excess of amniotic fluid the only apparent cause for delay in labor, if the membranes have by their dynamic force dilated the cervix fairly well, we may be justified in a timely rupture of the membranes which will allow an escape of a considerable amount of the fluid and thus permit the womb to get a better grasp on the fetus as this organ contracts more closely upon it.

These factors, excessive liquor amnii, along with malpositions of the fetus, I believe are common causes of our delayed and difficult labors.

It is a common experience to note how rapidly labor will progress after a timely artificial rupture of the membranes, which would lead us to the conclusion that it is because the womb is allowed to contract down on the fetus with more power in the direction of the birth canal.

Indiscriminate artificial rupture of the membranes is bad practice and will often defeat the end for which the act is performed.

Faulty positions of the fetus and excessive liquor amnii often account for the lazy and indifferent and inefficient contractions.

What are we to do to hasten delivery in the best interests of mother and child? First, prophylaxis as previously mentioned is of primary importance. In so far as is within our power, we should see that our patients enter the lying-in state in good physical condition, with as much muscular tone and as stable nervous systems as possible to secure. Second, we should be able to recognize the clinical varieties of uterine inertia, whether it is due merely to feeble and infrequent contractions, or contractions insufficient to overcome a slightly rigid cervix or inelastic perineum, or whether or not the pains are out of all proportions to the uterine contractions.

In the first condition, feeble and infrequent contractions after cervical dilatation has begun, the presentation satisfactory, and no evident reason why labor should not proceed, motor stimulants as quinin one or two full doses, or strychnia cautiously, may be given to advantage. Putting the patient in the upright position and getting the benefit of gravity may aid.

By correcting a faulty position of the child where it is possible to do so, the pains will often come on vigorously and labor proceed without interruption.

Where the cervix is rigid and the pains insufficient, cervical dilatation with the fingers may do good. I have often practiced it with good results, and have not been convinced that there were any ill effects. Chloroform will often relax the cervix. Hot douches may be employed for the same purpose, but have the disadvantage of washing away the natural lubrication, and then there is also the possibility of introducing infection.

Pressure with the hand or binder over the fundus of the womb probably stimulates uterine contractions. I have often made manual pressure over the womb, and see no reason why the womb may not be stimulated in this manner as it is so readily done by Credé's method after it is emptied.

The third condition of much pain and slight contractions may be overcome by the above methods, or by the hypodermic administration of one-fourth grain of morphin.

I recently observed a case where morphin acted almost specifically. The patient was having what we sometimes term nagging pains, and with no apparent progress. I could determine no evident reason why labor should not proceed.

I decided to give a hypodermic of one-fourth grain morphin and was soon rewarded by the nagging, indefinite and inefficient pains giving way to normal efficient pains which soon terminated the labor. The patient remarked, "Why didn't you give that medicine to me sooner?" Morphin is a remedy to be given cautiously, as it is believed to cause cyanosis occasionally in the new-born.

In the first stage of labor, a faulty position of the child may be benefited by a properly applied abdominal binder, especially in those cases of lax, pendulous abdomens, and where muscular tone is low. This will also render support and service during the expulsive efforts of the womb and abdominal muscles.

In the second stage of the labor after dilatation has been complete for some time, and the head is well engaged and inertia cannot be overcome by other means, forceps are indicated after one or two hours without progress, as much suffering can be eliminated and valuable time saved. I have generally observed the rule of waiting two hours after the head is on the perineum before applying the forceps, but I am becoming convinced that this rule should often be disregarded, especially if the head has been a long time reaching the perineum, and on account of excessive size of the head, failure to mould properly, faulty position or uterine inertia, the head does not progress, one-half to one hour should be a long enough wait before applying the forceps, if we can obtain the help of another physician, or can command other intelligent and trustworthy assistance.

The old saying as sometimes applied to childbirth, "Let Nature take its course," is not a good motto for the up-to-date accoucher of to-day. Present day progress demands more than merely watchfulness during labor and tying the cord and observing that the placenta comes away in its entirety after the second stage of labor is terminated. This applies particularly to the class of cases under consideration, namely, cases of difficult labor.

It is indeed quite true that it requires as much wisdom to know when not to interfere as it does to recognize and appreciate fully the conditions requiring more or less active interference and to know what to do under such circumstances. The forceps may be an instrument for great good or evil, and must be used with discretion and skill, which comes largely from experience. However, their application is not generally difficult, and no physician should take obstetric work who cannot qualify in this line.

Next to uterine inertia, or possibly as frequently, we have faulty positions of the fetus and abnormal adaptation of the fetal head to the birth canal as a common factor in distocia. An attempt should be made as early as possible to correct these malpositions. If we cannot succeed in correcting the position, if it is not too bad we may trust to spontaneous evolution of the presenting part. If the natural forces fail to accomplish this after a limited time, the careful application of the forceps will soon aid us in bringing down the head on the perineum, when the forceps may often be removed before the head has completely cleared the perineum, and rupture of this structure often averted or made insignificant.

Not uncommonly we meet with difficult labor in women who bear children for the first time late in their productive period, and in those approaching the menopause. At this age the pelvic bones are often very inelastic, and often there exists in multiparæ lacerations of cervix and perineum with their dense cicatrices. To add to the difficulties the child is frequently larger than in earlier pregnancies, and if the skull is very hard, with tight sutures and small fontanelles, so that moulding of the head is very slight, the difficulty becomes still greater. I recently met with such a condition in a patient past 42. A high forceps delivery was necessary, and although this was the seventh birth, it was by far the most difficult.

The probability of a long painful labor and then final resort to forceps in this class of cases should cause us to act after a few hours of fruitless pains before the mother becomes exhausted, and her resistance to infection is lowered, when the labor is finally necessarily terminated by forceps, version, or possibly Cesarean section.

We can justly assume that where a previous labor has been terminated within normal limits, and the fetus was of average weight and proportions, that no considerable pelvic deformity existed. However, in primiparæ a careful early determination of the pelvic capacity by pelvimetry or simple digital examination, is good practice, and is especially to be urged where for any reason pelvic deformity is suspected.

Where pregnancies occur in rapid succession we may look for trouble, because of the fact that the womb does not have sufficient time for involution and complete restoration of its former tone, until it begins to undergo again the rapid changes incident to pregnancy. This state of muscular undertone or lack of tonicity may allow

too much freedom of motion to the fetus and result in faulty positions and probably accounts many times for the cord being around the neck, sometimes in two coils. These factors may seriously complicate labor. Two of the most difficult labors that I have ever had occurred in patients who had had two confinements within a year. One of these, the most serious, I delivered in January, and again in December of the same year. We had a transverse presentation with prolapsed arm, hand and funis, ruptured membranes and firm uterine contractions on first examination. Considerable difficulty was experienced in bringing down the feet and effecting a delivery. Little can be done to prevent such conditions, but mothers who seem very fruitful should be advised to avoid pregnancy if possible for at least a year.

What shall we say regarding the use of chloroform and other anesthetizing or analgesic remedies in our difficult labors? Hyosein, morphin, cactin has many warm supporters, and scopolamin morphin is being used by some, but seems to require considerable care and experience to obtain good results.

Most of us have been taught to use chloroform in these difficult cases unless there is some very evident contra-indication. It is certainly true that women in confinement bear chloroform remarkably well, and seldom suffer from nausea or vomiting afterward. There is probably little if any effect on the fetus and its ease of administration, altogether, certainly give it first place as the safest and best anesthetic for both mother and child.

It is not within the province of this paper to take up those rarer conditions as pelvic deformities, brow, face, transverse or breech presentations, placenta prævias, multiple pregnancy, and many other infrequent conditions that often require consultation and skilled surgical assistance. I have merely attempted to hint at some of the most common causes of difficult labor as they have occurred to me in my limited experience, and to suggest the lines of treatment that have been of most service to me.

If I have succeeded in impressing on any of us the importance of more thorough preparation and more careful study of this important branch of our work, to the end that we may enter the lying-in chamber with a full sense of our responsibility, not trusting to luck, but with confidence in our ability to assist Nature when necessary, in this trying ordeal, I shall feel that the purpose of this paper has been realized.

DISCUSSION

Dr. C. E. Ferguson, Indianapolis: Mr. Chairman, and members of the Society, I think we are to be congratulated on the beautiful, simple and instructive paper of Dr. Wishard. I think there is no department of medicine which lags as much as obstetrics. Most of the students seem to be satisfied with what I call a correspondence course. I tell them in my lectures that if they do not take advantage of clinical work and hospital work and dispensary work, they might as well read the good books they can buy and not come to hear me lecture, because they can read it told better than I can tell it. Too many of them think that labor is a normal physiological act. No physiological act is attended with so many accidents. There is no birth, I care not how simple it is, that is not followed or accompanied by some more or less trauma, which if not attended to at that time, will be serious. It is our duty to keep as much of the work out of the hands of the gynecologists as possible.

The normal labor occurs very seldom. When they do, they are often over before the doctor gets there. We know that normal labor should terminate within twenty-four hours; that the water should not break before the cervix is dilated at least two-thirds; that there should be no discrepancy between the size of the pelvis and the size of the child's head. We find in almost every case there is one or the other of these elements lacking, so that in the first place I think the general practitioner makes the mistake of charging too little for his work. The result is that the patient does not consult the physician until she is in labor. The doctor is not called until sometimes the water has broken and until grandma says "I think it is about time we had the doctor." Then you find a large number of complications that you might have terminated or prevented had the woman come to you earlier.

I have in mind a case where I had to perform a Cesarean section because the doctor, in his haste to go down to New York to get some more education, had failed to examine a patient who consulted him three months before the expected time for labor, and had turned his case over to a fellow practitioner. This friend of his was called to see the patient, who was having labor pains and in attempting to make an examination he found what he thought was a bag of water, but on further examination he found it was a cyst. He could barely introduce one finger into the pelvis as he examined the woman, and found her to be a rachitic, yet here was a woman who had been allowed to go up to the time of labor and the funnel-shaped pelvis had not been recognized. It is the kind of a case that should come to us in time.

You say to the nurse, "Call me just as soon as labor starts," because it is a multipara. We

should educate our patients to come to us early and make a thorough examination of the pelvis at that time.

I want to emphasize the fact that the patient should be examined early, and then we can anticipate trouble or rest easy in the belief that that woman has a normal pelvis. We need have no fear if the head is well down in the pelvis, of any malformation.

There is one thing I want to mention that the doctor spoke about, and that is inertia. But he has not made the distinction — that is to me — he may have made it but I didn't get the distinction between the two kinds of inertia. This is one of the most important things we have to deal with in ordinary difficult labor. We have the primary uterine inertia about which he speaks, where the patient is for some reason or other unable to press down the bag of water or the head into the os. Now, there is another type of inertia which is secondary and which is altogether different. The woman has been in labor continuously for a number of hours and the uterus has failed to deliver and we have no contraction. Now, if you put your forceps on this second type of inertia you get delivery of the child but run the risk in almost every case of having a post-partum hemorrhage, because of the fact that the uterus is worn out and if you forcibly deliver this child, either by version or by forceps, you will have a lax uterus. Now, the treatment of this type is to give the woman a quarter of a grain of morphin and allow her to sleep for an hour or two hours. You will be surprised to see how quickly the uterus will take on its accustomed tonic contractions after this rest. There is great difference in the treatment of uterine inertia. It is unfortunate that we should apply the term "inertia" to both of these conditions. The primary inertia you may help with the forceps where the pains are continuous and where the uterus contracts. The secondary type is where the uterus is lagging and has no contractive power. The other condition where we have those horrible accidents of version or rupture of the uterus from attempts to turn it over, or attempts to use the forceps. Where we have a uterus that is capable of tonic contractions of course the treatment is entirely different. There you may use the forceps, but do not attempt to introduce your hand and do a version.

Dr. H. A. Cowing, Muncie: About four or five years ago it was my privilege to present a paper to this society on the subject of labor. From an experience of 600 cases of labor, in that paper I was able to show by careful records that were kept in my practice some of these complications that arise and the course of treatment. This experience I had at that time was rather an experience of evolution. I will say frankly that twenty-five years ago when I was in medical school the privileges of bedside instruction were not such as they are now and that I had really seen very few cases of accouchement before I went into the practice. So that these conditions had to be met rather from theory than from practice and from consultation with other men, and I had to learn at the bedside. Now we are in an era of better things, we are in a day when men are better prepared and there are better conditions as relate to medical education. We are in a time when men are assuming responsibilities who are prepared to assume them, as I take it. Now, so much for heart confession. One thing I noticed and I want to interject it right here that I can't help but admire; viz., the fortitude of our membership, who can stand such an atmosphere as we have in this room. As an oldtime health officer in Delaware County I protest against the hygienic conditions we are enduring.

I would like to say here as a matter of personal experience in eclampsia that I have not hesitated to give a half grain of morphin, repeated in half or three-quarters of an hour until a patient has taken one and a half grains, and as has been said in this Society, have found it a sheet anchor as an adjunct to the reasonably early delivery of the child, and on the mother the results were really gratifying. In the hands of another it might not act so well. With the use of the artificial sweating in bed, those methods have brought about some most excellent results. It seems to me as to the conditions that we meet, as to some of the causes, I had thought that occupation, our present manner of living, or hygienic conditions as relating to womankind, girlhood and motherhood have something to do with the abnormal deliveries. We surely know that some of these factors enter into the production of abnormal labors. Now, it occurred to me that the cure must come to the girl in school, to the growing child, to better conditions as relating to the hygiene of the masses. We know it is spoken of often and again that our high schools are not what they ought to be and we sit supinely down and endure it. I want to say right here that I think it will be but a few years and our school life as relates to the girl will be important. It is in the air. It especially pervades the atmosphere of preventive medicine and it is for you gentlemen to mingle with the people, who have the influence and have daughters of your own who have a future that relates to health, to improve these conditions. Our high schools take note, our schools in general take note, of the mental and the moral and really forget the physical, and it is telling, and it will tell on the future of our race.

Now, as relates to the medical education of the student, the better education that the physician is getting will tell, as I said, in future life. That is, in future practice. There is one element which the physician must have at the bedside, he must be brave, he must be in command of the situation. When these abnormalities present themselves as they do, he must be all these and he must be patient.

Another thing that occurs to me, and that is as relates to the calling of counsel in difficult cases. Now, I confess that in early practice I felt it a confession of weakness if I would call a brother practitioner in, and I am sure that I attempted to meet conditions that I would not attempt to meet now alone, and whatever the result may have been I know that I learned a lesson, and in a difficult case where counsel is needed and is so valuable, it is no confession of weakness but rather of good judgment and regard for the safety of the patient that counsel and assistance be called. It may mean the saving of a life, and, as Dr. Ferguson has so well said, we must elevate obstetrics. It is certainly lagging behind the advance of surgery and it is worthy of all of our study, of all of our effort, of all of our skill.

Dr. J. N. Study, Cambridge City: I desire to say a few words in regard to this subject which is now up for discussion. In addition to the admirable paper which Dr. Wishard has just read before this Society, of which I concur in pretty near everything said, there are two things in my opinion that I have gained from experience in obstetrics that are very frequently found and are the cause of prolonged, tedious and protracted labor that the doctor did not mention, the occipito-bregmatic presentation, the top of the head that persists. This is much more frequently found than I used to think. When you find the square head, the elongated presentation, you are sure to find difficult labor. The second is the occipito-posterior presentation. In a considerable degree this is more frequent than physicians in general anticipate, and it adds very materially to many very prolonged labors. Now, these occipito-posterior presentations pretty nearly always rotate anteriorly. I saw Dr. Gillespie call attention to the bony female pelvis and he said that it tends to bring about this occipito-posterior presentation, which very materially prolongs labor.

I live in Cambridge City and have been seeing women in confinement cases for several years and I felt that I should like to speak to the doctors of the Indiana Medical Society and use what influence I have to elevate obstetrics. To do this I think is the duty of every doctor in Indiana. The men who practice obstetrics, as Dr. Ferguson has said, are insufficiently paid. I turn off pretty nearly half as many cases of confinement as I attend, because I cannot afford to attend them. I do not want to attend an obstetric case without being sufficiently paid for it. I hope that the time has come when the doctors of Indiana will take sufficient interest, in fact, the doctors all over this land, to realize that a woman in confinement and her care are no trifling matter, and that it is the duty of doctors to try to elevate this branch of medical practice to the plane that it so richly deserves.

Dr. H. F. Beckman, Indianapolis: I think we should compliment the essayist on the paper which he has read. It seems to me that uterine inertia is a very serious matter, and probably leads to more operations than do the malpositions. Uterine inertia, in 80 per cent. of cases, is not primary, but secondary, that is, dependent on some factor which it is for us to detect. One of the most neglected factors is the stimulation during the first stage of labor, and the most natural stimulation, namely, food. I dare say that most of us neglect our patient in that respect. During the first stage of labor the patient is not hungry and her friends are so solicitons that they neglect meal time and the patient is simply starved, so that she is reduced in strength. In the second place, the stimulation by medical means. I think we should all keep in touch with our patient through the first stage of labor. We go and say "Call me when the pains get severe." By this practice, we neglect the great responsibility which we owe the patient. We should observe and prevent malpositions and should prevent and correct that which is the cause of inertia. Now, in stimulating for inertia we should remember first, the natural means, food, and then medical means.

I think the doctor means well in his idea of rupturing the membranes, but he does not draw the line strictly enough. It is too often followed by hemorrhages. I think we should have it impressed on us that we should have at least two-thirds, or better complete, dilatation before we rupture the membranes, and if we do not have this dilatation produced by the uterine contractions, we should produce it by manual means.

The douche during labor is to be condemned. While under aseptic conditions it will not be deleterious, a prolonged flushing will be followed by the same or possibly better results.

Then, to emphasize the one thing, it is not only expectancy at the telephone, but watchful expectancy, not active expectancy, simply watchful expectancy during the first stage of labor. During the second stage of labor I believe we are all present.

Dr. L. F. Schmauss, Alexandria: One thing that was mentioned, was the dose of strychnia.

If we limit it to one dose we must not expect much from it; repeat it every three or four hours. It is my custom in these cases to give about one thirty-second of a grain for a dose and repeat it every ten or fifteen minutes, four to six doses in the majority of cases, and it will show a decided effect if there is no malposition or malformation present.

In regard to post-partum hemorrhage. I think the best plan to follow is packing.

In the first stage of labor I have found chloral a good thing to use. It will act as a sedative, where the stomach is upset.

Dr. E. H. Griswold, Peru: Dr. Wishard's statement that the administration of chloroform will favor the dilatation and relaxation of a firm strong cervix prompts me to ask the members of this section whether we shall administer chloroform to a woman whether it leads to post-partum inertia, or whether it does not. A mild degree of chloroform inertia is certainly a godsend to a puerperient woman.

Dr. Wishard (closing): I would like to thank the discussers for their helpful suggestions, and I am sure we have all benefited by them. This is a very broad subject, which cannot be gone into thoroughly. I merely touched on most of these points, and the only excuse I have for offering this paper is that I believe it is a subject very much neglected by the average practitioner. You very seldom see a paper along this line, and that is the reason I have offered this one. I have found quite a good many physicians who do not like obstetric work. If a man does not like it, he had better leave it alone, he had better turn it over to his neighbor and try to do something else, if he has not the patience for this work.

Now, as the doctor suggested over here, he said there are two varieties of presentation he thought were rather common in difficult labor. I spoke of the malposition of the fetus, which would cover that. I could not go into this in detail. As to the early rupture of the membranes, I also mentioned that the timely rupture of the membranes depends on your experience. There is a time when it helps very materially. The pains will come on very satisfactorily after a rupture.

As to the douche. I merely mentioned that, rather to condemn it.

In regard to the use of strychnia, I did not say how much to use. That depends largely on your own judgment. In one case one dose will be sufficient, and probably in another case you couldn't give more than one dose, and some you would have to give several before you had the desired effect. It depends somewhat on the condition of the heart and various conditions.

Now, as to the question asked in regard to the use of chloroform. I haven't had as much experience as many of you physicians. I have been practicing eleven years. I have used chloroform in the vast majority of cases. Some women won't allow me to use it. I have found it a very good adjunct. I have never had a post-partum hemorrhage when I used chloroform. I doubt if chloroform, if used properly, will cause enough uterine inertia to make any trouble. It is my practice to give ergot following the expulsion of the placenta.

TRIPLE PREGNANCY: WITH REPORT OF A CASE

J. R. Hume, M.D.
Milroy, Ind.

Although triple pregnancy occurs once in seven thousand nine hundred pregnancies, it is certainly of rare enough occurrence to be of interest to the average obstetrician. Multiple fetation may be the result (1) of the impregnation of a single ovum that contains two or more germinal vesicles, or in which the formative material of the area germinativa divides; (2) of the impregnation of two or more ova contained in one Graafian follicle, or in separate follicles, the latter being situated either in one or both ovaries; (3) of the impregnation of ovules escaping at different times from different Graafian follicles; (4) of the penetration of the ovum by more than one spermatozoon. (Hirst.)

Heredity seems to bear an important relation to multiple fetation, as all writers cite numerous instances to prove this fact conclusively. One notable instance is given of a woman, in eleven pregnancies during a period of twenty years, giving birth to thirty-two children, viz: Quadruplets, twice; twins, thrice; triplets, six times. This woman was one of quadruplets, and her mother had given birth to thirty-eight children. Her husband was one of twins, and gave a history of other plural pregnancies in the family.

Where the multiple fetation is due to the impregnation of but a single ovum, there is but one chorion and one decidua reflexa; but each fetus will be inclosed in a separate amnion and be of the same sex. In this instance the placentæ early unite and at full term the anastomoses are so complete that only by careful observation can one detect other than a single placenta. The case reported here, I believe to be an example of the above, the impregnation of but a single ovum.

CASE REPORT

I was first consulted about this case during the latter part of the sixth month of pregnancy and received a history, as follows: Mrs. C. of Irish descent, aged 22 years, weight 120 pounds, height 5 feet and 7 inches, an appearance of good general health, and the mother of one child, a girl, aged 2 years. The husband, a laborer, age 29, was a good specimen of vigorous young manhood. Upon careful inquiry could find no history of plural pregnancy in either of their families. At this time found enceinté suffering from edema of the hands and feet, with slight puffiness beneath the eyes: which condition became extreme during the last month. An examination of the urine at this time, however, was negative for albumin. Other than the above symptoms, the term of pregnancy was entirely uneventful. Was next called on this case about 8 p. m., May 29, 1910, just nine and one-half months after last menstruation. Upon examination found only a slight dilatation, with pains occurring about once in fifteen minutes. Leaving orders for the nurse to call me when the pains became more frequent, I returned to my office, four blocks away. At 11 p. m. I was again called and found complete dilatation and a normal presentation. The pains were frequent, of short duration, and evidenced a good uterine force. Labor proceeded in a perfectly normal manner, and at 11:50 o'clock the first baby was born, greeting me with a vigorous cry. Expecting twins, I quickly tied the placental end of cord, and upon re-examination found another head engaging; presentation normal. After a lull in the pains of perhaps fifteen minutes it began the descent, and at 12:30 o'clock the second babe was born, likewise greeting me with a lusty scream. Immediately following this birth another pain began, and an additional examination revealed still another occiput making a rapid descent. By the time the second cord was tied, baby number three was born with the amniotic sac intact. Upon rupture of the membranes and removal of the child, no cry was heard, and only after fifteen minutes of strenuous effort was there any evidence of life visible. After the first respiration, however, all was well, and in a few minutes he seemed nearly as vigorous as the other two. The third stage was soon over, the placentæ being delivered by Crede's method. The three placentæ were united, and only by a very careful examination could one distinguish them from a single placenta. The cords were of marginal attachment. The placentæ and cords weighed 12 pounds; the weight of the babies in order of birth being 6½, 6, and 5½ pounds, all well supplied with a goodly quantity of red hair (a maternal inheritance), and all so nearly alike in appearance that they could only be distinguished, each from the others, by different colored ribbons tied about the arm. The mother never at any time evidenced any fever and the edema rapidly disappeared, although a trace of albumin was found in the urine for several days after the delivery. The boys have all thrived and the accompanying photo was made when the trio celebrated their first birthday anniversary. Their present weight, in the same order as given before, is 20, 18¼, and 18 pounds, and one could not well find three finer specimens of babyhood.

The late Dr. William Flynn of Marion has willed his entire estate, valued at about $30,000, to the Indiana Medical College.

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EDITORIALS

THE UNRELIABILITY OF LITTLE-USED REMEDIES

If a physician wishes to give a "tasteless quinin" he has his choice between certain proprietary compounds, such as Euquinine and Aristochin, and, we had almost said, the old, reliable quinin tannate. But according to a report recently published in *The Journal of the American Medical Association,* Oct. 14, 1911, p. 1303, quinin tannate is another one of the many preparations that may not be what they are claimed to be.

While Euquinine and Aristochin contain more quinin than quinin tannate and while they do not contain any objectionable constituents as does quinin tannate (about 60 per cent. tannin), some physicians give preference to quinin tannate partly, perhaps, because it is non-proprietary and also less expensive. The Council on Pharmacy and Chemistry of the American Medical Association having decided to describe this substance in New and Nonofficial Remedies, the Association's chemists examined the quality of the product on the market. The report shows that three brands were quite satisfactory while one contained 9 per cent. free quinin, was bitter and not fit for use, and that its manufacturer, Merck & Company, apparently did not consider it worth while to improve the product when advised of its poor quality.

The report states that in order to enable druggists to keep from buying this bitter quinin tannate and dispensing it on prescriptions the facts were reported to the American Pharmaceutical Association at its recent annual meeting in Boston. However, the commercial interests, which do not approve the American Medical Association's policy of publishing the names of manufacturers of worthless or adulterated drugs and who were in control of the meeting, passed a motion to strike out the manufacturers' names from the chemist's report.

The domination of the pharmacist's meeting by the pharmaceutical houses reminds us of the good (?) old times when these same houses (through their representatives) gained representation in our meetings and attempted to run matters medical as it best suited their purposes. Let us hope for a pharmaceutical awakening!

PUERPERAL INFECTIONS

With the constant progress that is being made toward the perfection of surgical technic, it seems strange indeed that so comparatively little advance has been attained in recent years in the prophylactic treatment of infections of the puerperium. And conditions will ever remain thus so long as the large proportion of the profession continues to blind itself to the fact that the process of confinement involves the same surgical risks and hence becomes the operative equivalent of a major surgical operation, with one or two factors added, e. g., the control of the hemorrhage instead of being amenable to manual control under open inspection, has to depend on the more or less complete, involuntary contraction of the uterine muscle. Not infrequently muscular tone is lacking and we have left in the uterus a mass of clotted blood that becomes an excellent culture medium for bacteria. Again, there are few surgical wounds left in so wide-open a state for the reception of bacteria, as is left in the involuting uterus and birth canal after the expulsion of a child and its placenta. That the process of labor must afford an excellent opportunity for sepsis is evidenced by the fact that even the strictest and most cleanly accoucheurs and lying-in hospitals occasionally have a serious infection following confinement, more often probably than would the same care in ordinary operative surgery experience. The wonder is that more women do not suffer this unfortunate calamity, with the indifferent care that attends many of them. Think of allowing an ignorant and untrained scrub-woman to thrust her hands into an open belly-wound! And yet the risk is about the same as that of repeated vaginal examination during the second stage of labor, by the average midwife of this country.

It has often been remarked that the obstetric art is a neglected one and the reason ascribed therefor is that the service is woefully underpaid. Doubtless this is all true enough, but the fact remains that the profession itself is largely to blame for this state of affairs. When medical men turn their attention toward educating the public in the necessity for the highest available skill in obstetric work, both for the safety of the child and the future welfare of the mother, and when, in turn, the profession trains itself to

the point of becoming more proficient in this line of work each decade, then will come that millenium when men that do obstetrics will be those that have the time, the patience and the skill that this field so richly deserves, yet so rarely obtains.

Many points of interest on this subject were brought out by Polak[1] in a recent symposium before the Philadelphia Obstetric Society, on pelvic infections. Classifying puerperal infection as essentially a wound infection, he says: "When we remember that microorganisms are present at the vulvovaginal orifice, in the vagina, in the cervix, and even in the uterus itself, in the puerperal woman, and that the vulvovaginal orifice in a primipara is almost invariably lacerated to some degree, that the vagina is frequently torn in the course of operative labors, and that the cervix remains for nearly three days, as a shapeless, traumatized, devitalized canal, with its margin torn at many points, is it any wonder that infections take place? In my experience, the high mortality and especially the morbidity in puerperal sepsis is produced by medical men, and is due to insufficient disinfection of the hands, together with a tendency to undertake operative delivery often in the absence of any absolute indication, before complete dilatation of the passages is obtained."

The infection may remain a local lesion, or beginning as a putrid or septic endometritis, extend from the uterus, as in almost all postpartal or postabortal sepsis.

As a result of peritonitis or infection of the pelvic cellular tissue, tubal infection with resulting suppurating salpingitis or pyosalpinx is a common complication in puerperal sepsis. Except for gonococcus infections, it is uncommon for the organisms to extend by continuity from an acute endometritis. Because of their tendency to produce lymphatic exudative peritonitis, the gonococcus and the colon bacillus frequently close the abdominal end of the tube, in contrast to the streptococcus and staphylococcus, which seldom seal the abdominal ostium. Save for the gonococcus type, the infection more often extends through the torn and bruised cervix into the cellular tissues of the broad ligaments and a localized pelvic cellulitis results, more than two-thirds of which cases resolve, or the infection may reach the peritoneum by the lymphatics or directly through the tubes, and excite a local or general peritoneal inflammation. The extent of the lesion is dependent on the variety and virulence of the invading cocci and the resistance of the soil invaded. The bacterial activity within a localized infection gives rise to soluble products producing a toxemia if the virulence of the organisms is slight, whereas the virulent infection permeates the tissues either by the lymphatics or through the blood-channels, the latter resulting either in a septicemia or simple bacteremia with the organisms circulating freely in the blood-stream, or a pyemia resulting in thrombophlebitic processes that give rise to septic emboli in various parts of the body.

The combat in the host is waged by means of bactericidal substances, opsonins and antibodies, some of the organisms being amenable to one, some to another of these elements of defense.

Infections of the uterus proper may be of mild type and invade only the surface of the mucous membrane, or there may be a septic infective form or a putrid type.

In order to treat such conditions in an intelligent way it is necessary to establish a clinical and bacteriologic diagnosis and to determine the extent of the lesion. After the uterus is emptied of its contents, Polak advises packing the cavity with gauze soaked in pure iodin, if the infection is limited to the endometrium. When it has passed beyond this area the question becomes one of increasing phagocytosis for which the author employs collargol and nuclein, internally, the saline infusion and the "abscess fixation." Vaccines of polyvalent strains have served the writer well, save in virulent streptococcic infections.

Operative measures in acute puerperal infections are contra-indicated save in a general purulent peritonitis demanding prompt drainage, infective tumors in or near the genital tract, intramural abscesses, or in a ruptured uterus. Curettage, douches and examinations during the acute stage of the puerperal infection, break down the natural barriers and open avenues for the further dissemination of sepsis to the myometrium, parametrium and adjacent tissues, the danger from curettage increasing as the period of pregnancy advances.

1. Amer. Jour. Obst., September, 1911.

SUGARS IN INFANT FEEDING

One does not have to delve very deeply into the literature of American pediatrics of to-day to see that we are fast following in the footsteps of the Germans in regard to milk modification and especially latterly with regard to the sugar content. Not many years ago high proteids were the *bête noire* of all those who were called in to assist in feeding a child artificially. Rather recently it was declared, and on good authority, that many of the so-called "proteid curds" that we were finding in our diarrheal cases were in

reality made up largely of fat and so we had to diminish our fat and increase the proteid in order to maintain the level of nutrition necessary for a normal weight curve. So we arrived at a simpler and more rational modification by the use of whole milk and water in varying proportions to suit the individual case, the carbohydrate being supplied by the addition of varying amounts of lactose. Within the last year or so we came to realize, largely through the help of the Germans, that we can still further simplify our modification by the withdrawal of lactose and the substitution of malt sugar, either as maltose alone or better yet in combination with dextrin as maltose-dextrin, a sugar that is much more readily assimilated than lactose.

Leopold, of New York, has recently[1] published a preliminary report on the use of maltose-dextrin in infant feeding with several case histories appended, and reviews the work on sugars in infant feeding up to the present time.

Years ago Escherich ascribed intestinal fermentation to the milk sugar used in milk mixtures, and fifty years ago Jacobi, for practically the same reason, advocated the use of cane sugar in preference to lactose. More recently and to-day, however, the latter gentleman defines his policy as in favor of less fat, less sugar and more carbohydrate in the form of the starches.

To Finkelstein, however, belongs the credit of more clearly describing the rôle of the sugars in infant feeding, when he proved that sugar — whether it be lactose, maltose, saccharose or glucose — when given with food, might cause elevated temperature and dyspeptic stools in infants, such symptoms readily disappearing on the withdrawal of the sugar. Indeed, he showed that very small quantities of sugar could cause the severest grade of alimentary intoxication in susceptible infants.

Lactose, saccharose and maltose are the sugars most commonly used in infant feeding, the last-named usually in combination with dextrin because of the high cost of pure maltose. All three are disaccharids, convertible by their ferments, into monosaccharids before being utilized in the body. Lactose and saccharose have ferments lactase and saccharase occurring exclusively in the intestinal tract, which do not act on any portion of their respective sugars that pass through the intestinal wall and hence permit of such sugars passing through the kidney and into the urine as such. The ferment maltase, however, occurring in other parts of the body, readily acts on whatever maltose goes through the intestinal tract and this probably accounts for the more ready assimilation of this sugar, as well as its more rapid absorption and lessened fermentation. It is well known that infants can tolerate twice as much maltose as lactose or saccharose without sugar appearing in the urine.

The literature contains varying expressions of opinion as to the comparative values of the different sugars in infant feeding, most German authorities recommending malt sugar, but Heubner, Czerny-Keller, and others, still use milk sugar, as have most American authors, with the exception of Jacobi, Abt and Koplik. Langstein-Meyer and Finkelstein recommend the maltose-dextrin preparations.

In view of the diversity of opinion Leopold decided to test experimentally the effect of the various sugars on a large number of infants, considering the question of the effect of the various sugars given by mouth on the temperature, weight curve and stools. Chemically pure lactose, maltose, saccharose and glucose, and two German mixtures of maltose and dextrin, were used.

From his experiments the author came to the conclusion that a combination of about equal parts of maltose and dextrin produced less frequently a rise of temperature and dyspeptic stools, and more frequently a consistent weight gain than lactose, maltose, saccharose or glucose. No such American-made product being on the market, Leopold had Mead, Johnson and Company make a preparation containing maltose 51 per cent., dextrin 47 per cent. and sodium chlorid 2 per cent. This preparation has been named "dextri-maltose" and is the one the author has been using at his milk station of the New York Milk Committee, and also at the Post-Graduate Hospital.

The history of Case III serves well to emphasize the beneficial effect of the preparation:

C. S., aged 5 weeks, weight 7 pounds 15 ounces. Rather well-developed child. Physical condition negative. Child very pale. Had been getting breast-milk for four weeks, during which time it gained only 9 ounces. Put on a mixture of one part of milk and two parts barley-water, with one-half ounce of cane sugar for three weeks. During this time it gained 1 pound. The sugar was then increased to 1 ounce, and during the next ten weeks the infant gained 3 pounds, a weekly gain of about 5 ounces. It was then given the same mixture, but dextri-maltose was substituted for the cane-sugar. During five weeks the infant gained about 5 ounces weekly. Cane-sugar was then substituted for dextri-maltose for one week, during which time the infant lost 4 ounces. It was then put on dextri-maltose

1. Arch. Pediat., October, 1911.

again, and gained 5 pounds and 4 ounces in fifteen weeks, or nearly 6 ounces per week. It was then put on cane-sugar for one week and gained only 2 ounces. Dextri-maltose was again substituted for the cane-sugar, and the infant gained 13 ounces in one week. The stools remained normal during the entire time, and the child showed a remarkable improvement.

The cases are still under observation and Dr. Leopold promises a further report.

One of the unmentioned advantages of the maltose substitution for lactose is the fact that it is slightly laxative and in constipated babies can be regulated in dosage to meet the needs of the bowels.

In view of the excellent results obtained in Germany with Keller's malt soup (which in reality is a preparation of maltose) and various maltose-dextrin preparations, it is sincerely to be hoped that the pediatricians of our country will try the question out thoroughly and publish their results in detail.

EDITORIAL NOTES

Pay your dues for 1912 before January 1. Do it now.

Secretary Combs says that already some county medical societies have paid the State Association dues for the coming year. This is encouraging news, and we hope that by January 1 there will be few members of the State Association who have not received their membership cards for 1912. It is important that 1912 dues should be paid early, for on January 1 medical defense begins for all those who have paid their dues for the coming year.

Every officer and member of county medical societies should read the letter by Secretary Combs published in this number of The Journal. This letter offers many suggestions which, if carried out, will be productive of much good not only to county societies but to the State Association. Of especial importance is the matter of the ending of the fiscal year. All county societies whose fiscal year does not end with December 31 are asked to hold elections in December for the year beginning January, 1912, and ending Dec. 31, 1912. Not only is it advisable that the fiscal year correspond with the fiscal year of the State Association and of the A. M. A., but that it correspond to the time during which protection by medical defense is in force.

The Massachusetts Mutual Life Insurance Company (and perhaps others) makes an announcement to medical examiners to the effect that as the taking of the blood-pressure is now regarded of so much importance, both in relation to disease and to life insurance risk, the company has decided to require the systolic blood-pressure to be taken if the applicant is over 40 years of age, and the new insurance asked for, together with that already in force, would equal or exceed $20,000. Blood-pressure will also be required in all cases where the company's limit is applied for, regardless of age. It is expected that medical examiners will equip themselves as soon as possible with some standard instrument in order that they may comply with the requirements of the insurance company.

The tragic death of Dr. Knabe has caused no little excitement in Indianapolis. The police and coroner have been making a searching investigation, but at this writing have not decided whether death was due to suicide or murder. The position of the relatives and close friends of the dead physician has been a trying one if we are permitted to judge by the manner in which the "sweating" process in the examination of witnesses has been conducted. In some instances the questions and their insinuations have been fairly brutal and apparently without the slightest justification. We have the greatest respect for law and its enforcement, but it is a great pity that sometimes those who are entrusted with the enforcement of the law exhibit an utter disregard of humane instincts and attempt to show authority by the most unreasonable exactions.

During the year which closed Sept. 30, 1911, 11,922 specimens of all kinds were examined at the Bacteriological Laboratory of the Indiana State Board of Health. This exceeds by nearly 2,000 the largest number of specimens examined in any one previous year in the history of the Laboratory. Of especial interest is the number of heads of animals examined for Negri bodies, namely 243. Of these 107 or 44 per cent. were found to be positive. Instead of improving, the number of cases of rabies reported in Indiana has increased every year. In 1910, 134 heads, of which sixty-eight were positive, were examined. During the previous year there were sixty-three positive cases among 144 heads. It is to be expected that the situation will be greatly improved during the next twelve months as a result

of the new law which places in the hands of local health officers the control of the muzzling of dogs in infected localities.

Beginning November 1, the Bacteriological Laboratory of the Indiana State Board of Health will supply antityphoid vaccine to physicians free of charge. It will be furnished on condition that accurate records of all cases be kept and forwarded to the Laboratory. Blanks for this purpose will be sent with the vaccine. Three injections will be given at intervals of ten days. Only one dose at a time will be sent for each patient. The second and third doses will be forwarded at the proper time without further request by the physician provided he has filled out and returned the necessary blanks.

Antityphoid vaccination as a prophylactic against typhoid fever has long since passed the stage of experiment. It is simple, harmless, and in the experience of the United States and British Armies, quite effective. Certain persons in civil occupations, such as nurses, physicians, laboratory workers and traveling men, who are especially liable to contract typhoid fever, will find such a prophylactic measure valuable.

During the month of October 4,514 specimens were examined at the Indiana State Bacteriological Laboratory. This was the busiest month in the history of the Laboratory. The greater part of the work consisted in the examination of throat cultures. Epidemics of diphtheria of greater or less magnitude have existed at Greensburg, Greencastle, Bloomington, Crawfordsville, Goshen, Lyons, Perrysville, Prairie Creek, South Bend and Brazil. Of special interest were two chickens and a cat sent from the vicinity of cases of poliomyelitis. The cat, sent by Dr. W. H. Sigmond, of Crawfordsville, had complete paralysis and loss of sensation in its hind legs. At autopsy there was found severe hemorrhage into the substance of the lumbar portion of the spinal cord with no evidence of any injury to the spinal column. Of the chickens, sent by Dr. J. L. Warvel of Sidney, one showed paralysis and marked atrophy of the right leg, but no visible gross lesions of the spinal cord or vertebræ. The fowl showed generalized tuberculosis affecting chiefly the spleen, liver and intestines.

It is with some regret that we announce that it will not be possible for us to publish a very full or accurate report of the discussions of scientific papers at the Indianapolis session of the state association. Unfortunately the typewritten report as submitted by the stenographers is so full of omissions and inaccuracies that it will be impossible to make the necessary corrections and additions in order to do justice to the various speakers. Accordingly, we propose to print all of the report that shows any indication of being correct and whenever possible we shall supply additions, but there will be some omissions that we cannot supply. The blame does not fall entirely on the stenographers but a portion of it should be shared by the presiding officers who ought to have insisted that speakers announce the name and address when discussing papers and come forward so that the stenographer could have heard all that was said. We hope that at next year's session the plan pursued will be somewhat different, and that in consequence the report of the meetings will be much nearer perfect than the one that has recently been turned into The Journal.

Every physician owes it to himself as well as to his patient to prescribe such drugs and such drugs only, the effects of which are thoroughly understood and the quality of which is unquestioned. It is surprising how many doctors will prescribe some pharmaceutical specialty the virtues of which have never been established and the recommendation for which has come through advertising in the numerous medical journals which thrive on the advertising income obtained from nostrum manufacturers. It is also surprising to know how many doctors patronize the numerous small and poorly equipped pharmaceutical houses because a little money can be saved, even though such saving is at the expense of quality of the goods purchased. One of the greatest boons to the physician who wants to be right in the quality of the drugs and pharmaceutical specialties he prescribes, is the published work of the Council on Pharmacy and Chemistry of the A. M. A. If a preparation has been approved by the Council the medical profession is safe in taking such preparation at its approved valuation, and experience shows that without some proof other than the claims of the manufacturer the preparation is likely to fall short of the representations.

Dr. Wiley seems to have won out in the fight waged against him by officials in Washington who were supported by powerful interests on the outside, but we predict that the victory will be of short duration. Dr. Wiley has antagonized numerous wealthy and influential food and drug manufacturers who have exploited the public, and

these manufacturers are not going to submit tamely to an interference with their nefarious but profitable business. Accordingly the publicity agencies maintained by them at enormous expense are more active than ever in efforts to change public opinion concerning the honesty and efficiency of Dr. Wiley, who has been their worst enemy in exposing their dishonest practices. Editors are flooded with letters and pamphlets purporting to discuss the Wiley case from an unprejudiced standpoint, yet adroitly condemning Wiley in every particular. To attack a more vulnerable spot the "interests" are appealing to the publishers by distributing advertising patronage which is the greatest bait that can be offered to secure newspaper support. It will be strange indeed if such a campaign does not eventually prove successful, and we predict that it will not be long until Dr. Wiley will be sacrificed to satisfy the demands of a horde of venal food and drug manufacturers who because of the direct and indirect power of their money can influence political appointments.

The Association is to have a new section to be known as the Eye, Ear, Nose and Throat Section. This section, through a preliminary organization, has a chairman and secretary who will work in connection with the scientific committee in getting up a program for that section. It occurs to us that it would be a good plan to organize the surgical and medical sections along similar lines. The plan followed by the A. M. A. could be adopted with profit and with the result of improving the programs and adding to the scientific interest of the meetings. Each section should have its chairman and secretary who should be held responsible for the program and conduct of their respective sections, but whose work should be under the general approval of the scientific committee. There should be one or two general meetings where all the sections would meet together for the reading and discussion of papers of general interest. The President of the Association, assisted by one or more of the vice-presidents, should preside at these general meetings, and also all meetings of the House of Delegates. The general secretary should also act at these meetings, but at other times be free to look after other numerous duties pertaining to his office. Such a plan it seems to us would add to the efficiency of our Association in giving the greatest returns to the members. The suggestion is offered for the consideration of the members, and we shall be pleased to have it discussed in future numbers of The Journal.

Dr. W. A. Evans of Chicago has been placed in charge of the Health Department of the Chicago *Tribune*. In a letter sent to many members of the medical profession Dr. Evans has the following to say:

"I wish you to know of the Health Department in the Chicago *Tribune* which has been placed under my charge. The *Tribune*, for many years, has been exceptionally careful in their medical and food advertisements, endeavoring to prevent misleading statements to appear therein. They do not accept the advertisements of physicians or methods of treatment. They have striven to be accurate in their medical news and well abreast of the times in their editorial position on medical subjects.

"It is their opinion that there is a public demand for correct information on public and private hygiene. To supply this demand is the purpose of the department. It is to help health departments to get those measures which are calculated to be of public benefit. It is to teach people what to do and what not to do if they would escape preventable illness."

We believe that we are warranted in making an appeal for the support of the Chicago *Tribune* in its commendable efforts put forth for the good of the community and the benefit of the medical profession. The newspapers are moulders of public opinion and no one can doubt the value of having such an influential newspaper as the Chicago *Tribune* working in the interest of public health.

This is the season of the year when most people arrange to place their subscriptions for reading material for the coming year. While the progressive physician usually subscribes for several good medical journals, he also subscribes for several good lay journals or magazines, not only for his own reading but to be placed on his reception room table for the benefit of patients who may have to wait on him.

We have absolutely no interest in any periodicals, but we do desire to recommend that physicians approve in a substantial way the course that is taken by certain weekly and monthly magazines, and this can be done through subscriptions. *Collier's Weekly*, because of its fearless stand in the fight against the League for Medical Freedom, the food adulterers, the anti-vaccinationists and the anti-vivisectionists, deserves a place in the list of periodicals regularly taken by the members of the medical profession. *Puck* and *Judge* are often found on the waiting room tables of many physicians, and while both are excellent in their class, we desire to especially commend

Puck because of the efforts put forth to uphold the stand of the medical profession on the subject of vivisection. On the other hand we cannot too strongly condemn *Life,* which in nearly every issue prints numerous falsehoods concerning vaccination, vivisection and medical progress in general and is so thoroughly malicious in its denunciations that it deserves censure, not only from every physician, but every person who believes in upholding truth. We believe that in the selection of periodicals for general reading the members of the medical profession should discriminate in favor of those periodicals that are not directly antagonistic to the aims and objects of the medical profession.

The chiropractitioners, whatever they may be, have a few representatives in Indiana who are advertising to cure various diseases. It will be interesting to know under what conditions the State Board of Medical Registration and Examination has permitted these new pseudo-doctors to practice medicine within the state.

There is another question which is interesting us and that is the position which the State Board of Medical Registration and Examination is taking concerning the practice of medicine by various opticians or so-called optometrists. Quite recently we have noticed that these spectacle fitters have dropped the word optician and even the high-sounding title of optometrist, and are now advertising "practice limited to the eye." We have always contended that the opticians' law was intended to give certain persons a back door entrance to the privilege of practicing medicine without the necessity of going through the tedious process of attending a medical college and procuring a medical degree in the usual way. We are firmly convinced that our contention is correct, for the advertising of some opticians indicates as much, and if this is not sufficient, an abundance of evidence can be produced to show that opticians are regularly prescribing or offering advice (and the most dangerous advice at that) in diseased conditions of the eyes. For instance, it has come to our notice that an optician who advertises "practice limited to the eye" has agreed to cure what he called "a kidney disease of the eye" by frequent changing of the glasses, coupled with the good effects of hot baths and soda solution taken internally. This optician also had no hesitation in assuming the title of doctor, which was the means of leading the patient to believe that the optician was a member of the medical profession. In reality the patient did not show any signs of nephritis, but was suffering from an intra-ocular growth. Cases of similar character might be multiplied indefinitely, and as one optician has been reported as saying, "what are you going to do about it?"

We frequently hear that it is the practice of some physicians to make the removal of enlarged tonsils and adenoids an office operation, and that the patient is permitted to start home, oftentimes a considerable distance from the physician's office, a half hour or an hour after the operation. In the case of a child, if a general anesthetic is given, the patient is permitted to be taken home before fairly well recovered from the effects of the anesthetic. The physician who follows this practice will sooner or later be the direct cause of a funeral, and perhaps the defendant in a malpractice suit. He deserves the severest censure, for it is either ignorance or criminal carelessness which prompts him to take any such chances with a human life. The removal of enlarged tonsils, or enlarged tonsils and adenoids, is an operation which should not be performed unless the patient can be under the immediate care of the operator for at least twenty-four hours, and for a longer period if possible. Alarming and even fatal hemorrhage has been known to occur several hours after a tonsil operation, and the dangers incident to the early removal of a patient that has taken a general anesthetic are too well known to be mentioned. To even leave an operated patient in the hands of relatives and friends who are untrained in the observance of unfavorable symptoms is a risk that is inexcusable. Even the trained nurse often requires special instructions in order to keep a proper record of the pulse which is the most important indicator of trouble arising from hemorrhage. Whenever possible the operation should be performed in a hospital and the patient kept there for from one to four days afterward, depending on recovery. For at least four to seven days the patient should be kept reasonably quiet, and this is particularly true if the patient is an adult. To pursue any other course is to invite disaster.

Then the question of an anesthetic is an important one. Chloroform is much easier to give and is therefore preferred by the inexperienced anesthetizer. However, it is the most dangerous anesthetic, and particularly in patients of the lymphatic temperament such as found in most all adenoid cases. Ether is far safer in every way; but whatever anesthetic is used should be administered by an experienced anesthetist. Except in an emergency no physician is warranted in placing the anesthetic in untrained hands. On the

other hand, the physician who has had limited or no experience in the administration of an anesthetic has no moral right to attempt to give an anesthetic unless his work is under the supervision of one who is skilled in the administration of anesthetics. At best the administration of an anesthetic requires the exercise of skill and judgment based on a comprehensive knowledge of the effect of anesthetics on the human organism. To trust this work to a novice is like trusting any work to one who is wholly unfitted by skill or experience to do the work.

That more people do not die as a direct result of the incompetency of physicians is due entirely to the fact that Nature takes a good many insults without retaliating.

To the Secretaries of County Medical Societies: This letter should be read by all members as well as secretaries of the Indiana State Medical Association as it concerns some complaints made at the Indianapolis session. It requires the cooperation of the secretaries and members to prevent these causes of dissatisfaction which, when they accumulate, make the difference between an harmonious and a contentious organization.

At the registration desk members complained that they had no membership cards. On investigation we discovered that in some cases this was due to the fact that the cards had been misplaced under the mistake that they were of no consequence. In other cases, county secretaries had actually been guilty of not delivering the cards to the members. On this account leniency was shown this year, though next year registration will be by cards, or certificates from secretaries only.

There was too much laxity about the delegates' credentials. In many cases the duly elected delegate did not attend the sessions and at the last minute some member in attendance had impromptu credentials prepared. It is unwise for county medical societies to elect delegates with the other officers at the first of the year, as it is impossible to fore-know whether they can attend the session in September. The By-Laws allow the delegates to be elected at any meeting before the session of the State Association. It would be well, therefore, to wait until August and find out just who will be in attendance and then make selections. Do not make this an honorary position to be passed around, but select a man who always attends the sessions of the State Association even if you have to elect the secretary.

New members joining the State Association frequently apply for A. M. A. membership at once. In answer they receive word from the A. M. A. office that they are not members of their State Association. It takes some time to establish a new member, so do not complain if you do not get your A. M. A. membership card in a few days.

Secretaries will please bear in mind the annual report which must be made to the Councilors. In order to furnish the required information it will be necessary for you to keep an accurate account of the attendance at the meetings, the number of papers read, and cases presented. The retiring secretary, not the newly elected one for 1912, should make the report for 1911.

It is highly desirable that all county medical societies have the same fiscal year as the State Association, and the A. M. A., namely, January 1 to December 31. If your society does not at present come under this category you are hereby notified to hold your annual election in December for officers to hold one year, beginning Jan. 1, 1912. This will be particularly desirable on account of the medical defense feature which will extend from January to January only.

The secretary of the State Association will furnish uniform receipts for the county secretaries, and on December 1 you will receive a receipt book with explanations.

Charles N. Combs, Secretary,
Indiana State Medical Association.

DEATHS

Mrs. George T. MacCoy, wife of Dr. MacCoy of Columbus, died November 6.

Dr. W. H. Smith, aged 84, died at his home in Bedford October 30. He was the oldest and one of the best known in that vicinity.

Mrs. E. H. Thurston, wife of Dr. Thurston of Hagerstown, died at her home, October 24, from heart disease.

Mrs. Sarah A. R. Boor, widow of the late Dr. William F. Boor of Newcastle, died at her home October 24, aged 75.

Dr. Joseph B. Graham, aged 85, died at his home in Newburg, October 16, after a short illness. He was one of the best-known physicians

in southern Indiana, and during the Civil War served in the Forty-Second Indiana Regiment.

Dr. Walter H. Peters, for twenty years a specialist on diseases of the eye, ear, nose and throat, of Lafayette, an expert analytical chemist and toxicologist, and a member of the staff of St. Elizabeth's Hospital, died at his home in Lafayette, September 28, from cancer, aged 52. He graduated from the Medical College of Ohio, Cincinnati, 1886. He was a member of the American Medical Association.

Dr. Helene Elise Hermine Knabe, who, on the morning of October 24, was found dead in her apartments at Indianapolis, with her throat cut, was born at Ruegenwalder-Muende, Germany, Dec. 22, 1875. Although she called herself a peasant girl in conversation with Dr. Hurty, her biography in Dunn's History of Indianapolis states that her father was a civil engineer and some relatives on her mother's side won military distinction. She was educated in the public schools of her native place and under private tutors. She came to this country, Nov. 15, 1896, her cousin Augusta Knabe, a teacher in the Indianapolis schools, having come the year before. She did housework and any kind of honorable work she could get to support herself and further her education. She studied at Butler College and the Indianapolis Business University. Sept. 22, 1900, she entered the Indiana Medical College, beginning pathology under Dr. Wynn her sophomore year, and her interest and proficiency in this study was so great that she was made curator of the pathological museum and for two years was supervisor of laboratories of the Medical College. She also assisted in the department of physical diagnosis in the College and at the Bobbs Dispensary. Graduating at the Medical College of Indiana, April 22, 1904, she was appointed Assistant Pathologist to the State Laboratory of Hygiene, Aug. 1, 1905, and was Acting Superintendent from Oct. 7, 1907, to Dec. 1, 1908. Her work in rabies attracted considerable attention. Since Jan. 1, 1909, she has taught pathology in the Indiana Veterinary College. Her skill in drawing led to her being invited to assist in illustrating text-books of Drs. Geis, Kyle, Sluss and Hurty. She was secretary of the Sydenham Society in 1902-03, and was a member of the Indianapolis Medical Society, the Indiana State Medical Association, the American Medical Association, the Nu Sigma Phi fraternity, the Young Women's Christian Association and the Knights and Ladies of Honor.

NEWS, NOTES AND COMMENTS

Dr. Asa W. Brown, health officer of Bluffton, has resigned.

Dr. French, a brother of Dr. Gayle French of Kingsbury, is now located at Union Mills.

Dr. John K. Kingsbury has been appointed assistant bacteriologist to the Indiana State Board of Health.

R. A. Dunn, postmaster at Stinesville, Ind., writes that Stinesville offers a good opening for an active physician.

Dr. M. C. Van de Venter, who for several months has been located at Union Mills, is now practicing in LaPorte.

Eli Lilly & Company are now issuing a folder on Pediatric Practice, which they will be pleased to send any reader of The Journal on request.

Dr. Victor V. Bacon of Michigan City, secretary of the local board of health, has recently removed to Spokane, an account of the health of Mrs. Bacon.

The regular semi-annual meeting of the Union District Medical Association was held in Connersville, October 26. There were about seventy-five visiting physicians.

Dr. Garrett Van Sweringen announces the removal of his office from 706 Washington Boulevard West to his residence, corner Broadway and West Wayne Street, Fort Wayne.

Indianapolis has recently had an epidemic of diphtheria in its public schools. Cultures from the throats of all school children, and rigid quarantine resulted in getting the epidemic under control.

Drs. John W. Sluss, John A. Pfaff and Charles L. Cabalzer, Indianapolis, while busy in the operating room of the Deaconess Hospital, October 5, were robbed of their money and jewelry.

A banquet was given by the Lake County Medical Society, October 12, in honor of Dr. William F. Howat, of Hammond, the newly elected president of the Indiana State Medical Association.

The seventeenth annual meeting of the Association of Big Four Surgeons was held in Indianapolis recently. Dr. L. A. Ensminger of Indianapolis is secretary and treasurer of the organization.

Dr. Harvey W. Wiley, government chemist, was the principal speaker at the first Indiana State Conservation Congress, held October 27 in Indianapolis. His subject was "The Conservation of Public Health."

It is reported that the city of Princeton will purchase for $15,000 the Princeton Sanatorium, which cost $35,000, and will maintain the institution as a city hospital. This movement has the support of the local members of the profession.

Dr. O. O. Melton, a graduate of the University of Louisville, June 30, 1910, honor man of the class, after having served a year in the Louisville Hospital, has accepted a position as Medical Director of the Hunter Mineral Springs, Kramer, Ind.

At a recent meeting of the board of the Children's Aid Association, Indianapolis, Dr. E. B. Mumford was appointed to represent the association at the meeting of the National Association of Infant Mortality, which is to be held in Chicago in November.

The State Board of Health is now prepared to vaccinate against typhoid. The Board announces that the laboratory can now supply the serum to physicians who desire to use it. Typhoid serum was used in the U. S. Army in the recent maneuver camp in Texas with satisfactory results.

To treat dispensary patients as human beings and not merely "cases" is the keynote of the social service department of the Indiana University School of Medicine, as explained by Dean Emerson. Indianapolis charity workers are urged by Dr. Emerson to cooperate with the new department.

At a special session of the State Board of Health recently, representatives of the city of Indianapolis concurred with the Board in the opinion that Indianapolis should cease polluting White River. The State Board entered an order, giving the city until June 1, 1912, to investigate means of disposing of the sewage.

Drs. John Davis of Indianapolis and E. Ray Royer of North Salem recently assisted Dr. New of Barnard in the performance of a Cesarean section on a girl 15 years of age. Patient had been in labor about forty-eight hours. Child weighed 8 pounds. Ten days after operation both patient and child reported to be doing finely.

The Department of Tropical Medicine of the New York Post-Graduate Medical School is organizing an expedition to investigate pellagra in the southern states. The work will start in the spring and is made possible by the gift to the institution for this purpose of $15,000 by Col. Robert M. Thompson and Mr. J. H. McFadden.

A test case to determine how much physicians, who are witnesses at insanity inquests, shall receive from the county, was filed recently by Dr. Augustus L. Marshall of Indianapolis. He asks $3 a day, which is the amount allowed by law. The commissioners now pay but $2 a day, in accordance with the opinion of a former county attorney.

Prof. A. W. Bitting of Purdue University has been appointed food technologist under the Bureau of Chemistry, Agricultural Department, and will assist Dr. Harvey Wiley in the enforcement of the pure food laws. He has made several investigations for the Bureau of Chemistry on tomato catsups, and is a sworn enemy of benzoate of soda. He will conduct his government work at Lafayette.

Dr. A. M. Hetherington, a former intern of the Indianapolis City Hospital, and a graduate of Indiana University School of Medicine, is now engaged as ship surgeon for the Hamburg American Steamship Company, and is on a cruise to the East Indies via the Strait of Gibraltar, the Mediterranean Sea, the Suez Canal, Red Sea and Indian Ocean. He is to visit the Philippines and Japan, and will return to New York in February.

The ninth annual convention of the Indiana State Nurses' Association was held in Indianapolis, October 9. Miss Ethel L. Chisholm, superintendent of the nurses' training school at the Union Hospital at Terre Haute, was elected president of the superintendent's organization and Miss Jennie A. Horn, superintendent of the nurses' training school at the Methodist Episcopal Hospital, Indianapolis, was chosen secretary-treasurer.

Since October 1 the following articles have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. for New and Nonofficial Remedies:

Lutein tablets, (Hynson, Westcott & Co.)

Calcium phenolsulphonate (Mallinckrodt Chemical Co.).

Calcium phenolsulphonate (Abbott Alkaloidal Co.).

Pankreon (Chemische Fabrik Rhenania).

Bismon (Kalle & Co.).

The State Board of Pharmacy, at a recent meeting, ruled that in future examinations persons desiring to be licensed as assistant pharmacists must be examined in the laboratory test, which heretofore has been required only of persons seeking to become registered pharmacists. The law provides that an assistant pharmacist may be left in temporary charge of a drug store during the absence of the registered pharmacist, and the board held that he should be competent to read and fill prescriptions.

The Association of Surgeons of the Pennsylvania Lines West of Pittsburg held its thirtieth annual meeting in Indianapolis recently. Dr. J. D. McCann of Monticello, in an address, declared in favor of sanitary inspection of railroad depots and other property by railroad physicians. He called attention to the deplorable conditions existing in some depots, and gave as his opinion that the unsanitary condition keeps people away from the roads. He believed that the railroad physician could bring about a great improvement by inspections and recommendations.

New laboratories, completely equipped for postgraduate medical instruction and research, have been organized and opened at the New York Post-Graduate Medical School and Hospital. The director is Jonathan Wright, M.D., and the staff includes: tropical medicine, in collaboration with the medical departments of the Army and Navy: James N. Phalen, M.D., Capt. Med. Corps, U. S. A., Francis M. Shook, M.D., P. A. Surg., U. S. N.; bacteriology: Ward J. MacNeal, Ph.D., M.D., Richard M. Taylor, M.D.; pathology: Ward J. MacNeal, Ph.D., M.D.; Oliver S. Hillman, M.D.; biochemistry: Victor C. Meyers, Ph.D., Morris S. Fine, Ph.D.

At the annual meeting of the Lake County Medical Society, held in Hammond, November 9, the following program was presented:

The Clinical Value of Blood-Pressure Examinations, Dr. W. F. Howat, Hammond; discussion, Drs. J. B. Berteling, South Bend, and T. W. Oberlin, Hammond; Individualization in the Hospital Treatment of the Acute Psychoses, Dr. Sanger Brown, Chicago; discussion, Drs. Paul Bowers, Michigan City, and Clark Cook, Fowler; Clinical Demonstration, Dr. A. C. Kimberlin, Indianapolis; A Consideration of the Prostate with Special Reference to Intra-Vesical Obstruction, Dr. Frederick R. Charlton, Indianapolis; discussion, Drs. E. G. Blinks, Michigan City, and H. M. Hosmer, Gary; Ehrlich and Salvarsan, Dr. R. C. Shanklin, South Bend; discussion by Drs. S. J. Young, Valparaiso, and H. J. White, Hammond.

At the twenty-sixth special annual meeting of the St. Joseph County Medical Society, held at the Oliver Hotel, South Bend, Friday, November 17, the following program was presented:

"Diagnosis of Diseases of the Chest by Means of the Roentgen Rays." Dr. S. A. Clark, South Bend.

Discussion. Dr. Charles W. Haywood, Elkhart; Dr. R. L. Sensenich, South Bend.

"Indefinite Pains in the Limbs." Dr. Charles P. Emerson, Indianapolis.

Discussion. Dr. F. P. Eastman, South Bend; Dr. H. M. Miller, South Bend.

"A Pistol Wound of the Diaphragm, Liver, Stomach, Spleen and Kidney." Dr. Goethe Link, Indianapolis.

Discussion. Dr. J. B. Berteling, South Bend; Dr. C. C. Terry, South Bend.

"Syphilis — Some Recent Findings Relative to Etiology, Diagnosis and Treatment. A Lantern-Slide Demonstration." Dr. Oliver S. Ormsby, Chicago.

Discussion. Dr. R. C. Shanklin, South Bend; Dr. J. Work, Jr., Elkhart.

"Tumors of the Thyroid." Dr. Charles Mayo, Rochester, Minn.

Discussion. Dr. G. W. McCaskey, Fort Wayne; Dr. C. A. Daugherty, South Bend.

SOCIETY PROCEEDINGS

SECOND DISTRICT MEDICAL SOCIETY

The Second District Medical Society met at Spencer, September 7, with President Allen Pierson in the chair. Meeting called to order at 10 a. m.

The first paper on the program was presented by Dr. E. B. Mumford, on "Infant Feeding." Discussion by Drs. Kessinger, Harris, Knoefel, Simonds, Briggs, Yenne, and closed by Dr. Mumford.

Dr. F. C. Heath gave an address on "Important Eye Symptoms in Some General Diseases." Discussion by Drs. Thompson, Yenne, Holland, and closed by Dr. Heath.

Luncheon was served at the Laymon Hotel at 12.15.

Afternoon session called to order at 2 o'clock. Dr. J. P. Simonds spoke on "The Use the General Practitioner Should Make of the State Laboratory," illustrating same by charts. Discussed by Drs. Knoefel, Trueblood, Holland, and closed by Dr. Simonds.

Minutes of previous meeting at Trinity Springs read and approved.

The following officers were elected: President, W. N. Thompson, Sullivan; vice-president, J. R. Crowder, Sullivan, and secretary-treasurer, C. F. Briggs, Sullivan. The next meeting will be held at Sullivan, at a date to be fixed later.

The following resolutions were adopted:

The Second District Medical Society at its annual meeting held Sept. 7, 1911, at Spencer, Indiana, heartily endorse the action of the Board of Trustees of the Indiana University in their wise selection of Dr. Charles Phillips Emerson, as dean of the Indiana University School of Medicine, and pledge the Trustees and University its influence and support in all efforts to advance the cause of higher medical education.

The Second District Medical Society, at its sixth annual meeting in Spencer, Indiana, Sept. 7, 1911, sends greeting and unanimous endorsement of the faithful services of Dr. Harvey W. Wiley, Government chemist, for his heroic fight for pure food and drugs, who has unflinchingly stood practically alone in his endeavors to conserve the health and lives of the people; who has been hampered in every way possible, over-ruled, humiliated, and made the victim of false charges. He has stood like a rock against the conspiracies of a gang of men, who would for gold sell poisonous foods and drugs to the public. We hereby pledge this faithful public servant, Dr. Harvey W. Wiley, our heartiest support.

Resolved, that a copy of this resolution be spread on the minutes of this Society and a copy transmitted to Dr. Wiley.

A vote of thanks was tendered the Owen County Medical Society for its hospitality.

Adjourned. Nathaniel D. Cox, Secretary.

ELEVENTH COUNCILOR DISTRICT MEDICAL SOCIETY

The Eleventh Councilor District Medical Society met at Wabash, October 19. Meeting called to order at 1:30 with President Jewett in the chair. Minutes of previous meeting read and approved.

Election of officers resulted as follows: President, L. E. Smith, Wabash; secretary-treasurer, James L. Gilbert, Logansport.

A letter from Dr. M. H. Krebs, councilor, tendering his resignation from that office, was read and duly accepted. Dr. G. G. Eckhart, of Marion, was elected to fill the unexpired term.

The following program was given: "Injuries and Infections of the Hand," Dr. Brown McClintock, Peru, Discussion, Dr. J. C. Overman, Marion; "Use and Selection of Diuretics," Dr. V. V. Cameron, Marion; Discussion, Dr. G. Grossnickle, North Manchester; "Modern Management of Tuberculosis," Dr. J. H. Reed, Logansport, Discussion, Dr. O. G. Brubaker, Burlington; "Differential Diagnosis of Gastric Ulcer," Dr. E. W. Poinier, Andrews, Discussion, Dr. C. H. McCully, Logansport.

The ladies were given a sight-seeing tour at 1 o'clock followed by an informal reception at the home of Dr. and Mrs. B. A. Houzer. At 6 o'clock a banquet was served at the Wabash St. M. E. Church. About eighty-five guests were present, and were served with a splendid banquet and entertained with delightful music.

The following postprandial program was given:

Toastmaster, Hon. Warren G. Saure, Wabash.

"Something to Eat," Dr. A. J. Chittick, Burlington.

"Etiology of Alopecia Areata," Dr. O. U. Carl, Wanpecong.

"Who Frets?" Dr. C. H. Good, Huntington.

"The Doctor's Reward for Unpaid Bills," Dr. J. F. Loomis, Marion.

Adjourned. James L. Gilbert, Secretary.

FORT WAYNE MEDICAL SOCIETY

Meeting of September 5

Society met in regular session in the assembly room with twelve members present. No clinical cases.

This being the first meeting following the summer vacation and occurring so soon after the A. M. A. meeting, the evening was taken up with reports of the A. M. A. meeting by Drs. Barnett, Morgan and Calvin.

Motion carried that the secretary write to Senator Owen for 100 copies of his speech on the Owen bill. Motion also carried that secretary write to Hon. Cyrus Cline for 100 copies of the Pure Food and Drugs act. Bill for $3 for Anthony Hotel allowed.

Adjourned. G. Van Sweringen, Secretary.

Meeting of September 12

Society met in regular session in the assembly room with ten members present.

Dr. Glock read a paper on "Interstitial Keratitis."

In the discussion Dr. Porter said he believed that specialists often overtreat cases of eye diseases. Young men should raise their voices against this meddlesome work. Has often failed to make diagnosis because he failed to get accurate history of case. Believes that is a point in cases of keratitis. Must have specific history.

Dr. Morgan asked how long cases of interstitial keratitis may be neglected and still get benefit from treatment. Now has a case two months old.

Dr. Weaver took exception to the statement of Dr. Glock regarding Von Pirquet's reaction. The Von Pirquet reaction means nothing except that some place in the anatomy there is a tuberculous lesion. Is glad to know that acetozone is worth while in some conditions; when it was first exploited it was a specific for typhoid fever. When taken with large quantities of water is of most value; perhaps the water did as much good as the drug in those cases treated.

In closing, Dr. Glock said he could agree with Dr. Porter in that some cases are overtreated. Occasionally bad results follow total lack of treatment. Examination of patient's family will frequently show specific disease. Thinks the Calmette reaction dangerous because if the eye contains a tuberculous lesion it grows worse. This reaction has been followed by ulceration in a macroscopically normal eye.

The following bills were allowed: Mrs. Auger, flowers, $2.00; Miss Mannix, stenographer, $2.00, and G. Van Sweringen, postal cards, $11.14.

Dr. Porter objected to words "Case Reports" on weekly card. Thinks the nature of case to be reported should be stated on card.

Motion carried that any member who fails to read his paper or delegate the duty to some other member, without adequate excuse, should not be invited to read a paper on next year's program.

Motion carried that secretary write a letter to each of our senators asking their support of the now pending arbitration treaties with England and France.

Adjourned. G. Van Sweringen, Secretary.

Meeting of September 19

Society met in regular session in assembly room with fifteen members present. Minutes of previous meeting read and approved.

Clinical cases. Dr. E. E. Morgan presented child 3 years old. Walked at 1 year; stood alone. Right-sided pneumonia followed by paralysis right arm and leg, lasted in arm one month. Left leg flexed on thigh, now left leg shorter than right. Crossed leg progression; reflexes absent. Family history negative. Six healthy children. There has been no treatment.

In the discussion Dr. Drayer said that he has an entirely different opinion than formerly of electricity in these cases. Wait until acute symptoms have subsided, then preserve muscles. Some use braces, others electric current, massage and braces. He is strongly inclined to the use of massage, electricity and getting case up so that it can use muscles.

Dr. McCaskey said that he uses electricity and believes that it does good. Faradism should be used if it produces contraction, if not, galvanism. If muscles respond to faradism recovery may be looked for. Contraction comes on in about 2 months.

Dr. Calvin said that as a rule the temperature of the two limbs is different. Muscle not all gone, but atrophied through non-use. Atrophy should be compensated for by massage with nourishing oils.

Dr. Morgan believes that electricity should be used early, but thinks it too late in this case. Has ordered brace for the child.

Dr. E. J. McOscar reported a series of five cases of hernia operations in which the appendix was removed through the hernia opening. After opening and emptying the sac the appendix was sought for and brought down by the index finger being inserted through the opening in the hernial sac. The first three cases were operated for the cure of hernia; the other two cases sought relief for recent appendicular trouble. Both were subjects of right inguinal hernia controlled by truss. Suggested that hernia be first operated in hope that appendix might be brought out and removed through the hernial sac, thus making both operations through a single incision. Appendix removed in both cases and hernia closed with cord transplantation. In none of the five cases was the internal ring enlarged. The patients were aged 5, 19, 27, 34 and 54 years.

In the discussion, Dr. Barnett said he thinks Dr. McOscar's work unique. Thinks appendix should be removed whenever accessible. The best way to deal with the appendix is the simplest way. Simple ligature is sufficient. Asked Dr. McOscar if shock is any greater when appendix is removed in this way.

Dr. Morgan objects to the plan of removing the appendix whenever belly is open. Thinks appendix should not be removed unless diseased.

Dr. Charles E. Barnett presented the following case reports.

Case 1.—Metal tube in uterine cervix for prevention of conception, which remained five years. Pus tubes present.

August 7, 1911. Patient, married, aged 31, housewife; good family history; worked as hired girl. Present history: operated for result of abortion six years ago; tube put in by another doctor to prevent conception; discharged by him one year thereafter. Bladder trouble; pain in left Fallopian tube one year after tube was introduced; now has to wear napkin all the time. On examination found tube in cervix; removed same. Tube (loaded with 2½ inches of No. 20 (F.) catheter) had been introduced five years ago, shortly after girl came from Germany. Uterus six times too large. Left pus tube pain pronounced. Tender throughout whole pelvis. Operation Aug. 21, 1911. Belly opened with difficulty on account of many adhesions. A mass of adhesions entirely obliterated vesico-uterine fossa, extending up in front above pubic crest. The caput-coli present in median line firmly attached to tumor mass. On left side the irregular mass filled in the iliac fossa, extending up as high as mid-lumbar region. This was so firmly inserted into viscera and pelvic wall that it was practically immovable. No outline of uterus discovered. On right side thin walled cyst extended up to outer side of colon to lumbar region, containing about a pint of fluid. It was ruptured while endeavoring to break up adhesions, and through the cyst wall remains of right tube was found. Tube exsected as near to uterus as it was possible to free it. A portion of posterior uterine wall could be felt through cyst cavity; uterus immovable, and at no point could adhesions be broken down in order to make it more accessible. In region of appendix in the caput-coli an appendix was removed which showed no mucous membrane lumen. Viscera surrounding post pelvic wall including caput-coli, sigmoid flexures and ileum, were all firmly agglutinated into the mass and were inseparable from it. A portion of this tissue was removed for pathological examination and belly closed in usual way.

Histological examination of tissues taken from pelvis showed it to consist of adipose tissue with thick strands of connective tissue reticulum, infiltrated with round cells and leukocytes. Has general appearance of chronic productive inflammation.

Case 2.—Tuberculosis right kidney. Feb. 20, 1911. Patient, woman, married, aged 32; housewife. Tubercular contact history. Physical examination: Both kidneys tender but right much more pronounced. Cystoscopy done Feb. 20; bladder ulcers seen around about the ureteral region. Neither ureter could be found. Cystoscopy done Feb. 27; right ureter catheterized through ulcerative spot. Indigo carmin showed in 24 minutes; blue from left kidney in 20 minutes. T. B. found in right urine. Autogenous vaccine given. Under vaccine treatment patient improved markedly until May 12 when ureter blocked (likely due to vaccine hyperemia) at which time she had pressure symptoms of kidney pelvis with rigors followed by temperature of 104; this continued daily except when ureter would empty, at which time there would be cessation of the septicemia followed by excessive pyuria. Patient sent to hospital couple of days for pre-operative eliminative treatment, but in spite of proctoclysis, daily septicemia continued. Operated May 24. Tumor well down in lumbar region; pus distended kidney three times its normal size. Kidney delivered and removed

after breaking up the unusually tenacious adhesions. Pedicle ligated and tied in; renal artery isolated and tied separately. Sept. 1, 1911, patient gained 20 pounds in weight. Bladder and ureter infection subsiding rapidly under autogenous and tuberculin injections. Kidney specimen presented.

Case 3.—Kidney stone (left) with kidney infection. Patient, woman, aged 45 years, married 22 years; housewife. Suffered from left kidney pain when girl. Perineorrhaphy three years ago. Present trouble six years ago. (Aggravated when pregnant.) Six years ago had cystitis, hemorrhagic; no pain; nocturnal micturition not pronounced. Symptoms of polyuria and anuria. X-ray picture showed stone in left kidney. Cystoscopy done; right ureter catheterized; indigo carmin showed in ten minutes on right side; no blue in fifty minutes on left side. Operation May 8, 1911. Oblique lumbar incision made: kidney well down, but quite adherent to suprarenal fat. Stone felt in middle portion near pelvis; was delivered with difficulty. Hemorrhage controlled with Halstead suture. Kidney closed with two rows of Halstead (catgut plain) finishing with a continuous suture of capsule. Blood in decreasing quantity remained in urine up to May 22, when all traces had disappeared. That evening called to hospital and found that a large quantity of blood with clots had been expelled from bladder. Hemorrhage continued until 3:13 a. m. May 23, when a nephrectomy was done. Patient rallied nicely and recovery uneventful. X-ray pictures, stone and kidney specimen presented.

In the discussion Dr. Calvin asks if these cases which get well quickly are primary or secondary tuberculosis of kidneys. Asked source of infection of kidney with tubercle.

Dr. Drayer said that there are three things to consider in making a diagnosis of this kind, 1, Determine if disease is unilateral; 2. That the disease is in kidney and not in bladder; 3. That there is no tuberculosis elsewhere. Complicated with other tuberculosis these cases are inoperable. If any cases are for the special genito-urinary man it is these cases. Asked how often kidney tuberculosis is complicated with adrenal tuberculosis.

In closing Dr. Barnett, in regard to non-operative cases, said that you have mixed infection in all cases of kidney tuberculosis. The point is, can the kidney be saved or not? If ureter is not tuberculous prognosis is better. Believes many kidneys can be saved by vaccines. The pelvis is the first attacked, but extension soon takes place. If treatment is begun early, majority can be saved. Source of infection is through blood-stream. Did not find a kidney tuberculosis in general tuberculosis, except in miliary tuberculosis. Nephritic tuberculosis always unilateral. Primary bladder tuberculosis is unknown; always secondary. Thinks kidney tuberculosis is always by blood-stream even in adrenal tuberculosis. In treatment of kidney tuberculosis too much stress cannot be placed on vaccines; autogenous vaccines best. Without drainage condition does not get well.

Adjourned. G. Van Sweringen, Secretary.

INDIANAPOLIS MEDICAL SOCIETY

Meeting of October 3

Meeting called to order by President Kimberlin with forty-eight members present. Minutes of previous meeting read and approved.

The following applications were read for first time: J. G. Seifers, A. E. Guedel, O. W. Ridgeway and J. W. House. The following were read the second time and referred to the Council: S. L. Egart, H. G. Morgan and H. L. Comer.

Secretary called attention of society to need of a revision of the by-laws. Following committee appointed to submit a report to the society: N. E. Jobes, W. D. Hoskins, H. R. McKinstray, F. C. Heath and A. Henry.

A letter from President Wm. L. Bryan was read expressing his gratification on being elected to honorary membership in the society.

President called attention of society to fact that president-elect of State Association had asked that committee on arrangements for next session of State Association be appointed. Motion carried that president appoint such committee. Some discussion about local society bearing expense of state meeting. No action taken. Motion carried that senior students be invited to attend society meetings.

Drs. A. Henry and J. P. Simonds reported a case of far advanced pulmonary tuberculosis, a post-mortem of which showed following complications:

1. Acute generalized peritonitis with three large perforations of small bowel.
2. Tuberculosis of the mediastinal lymph glands.
3. Very extensive ulceration of the colon and ileum.
4. Chronic fibrous pleurisy.
5. Enlargement of mesenteric lymph glands.

Dr. Guedel read a paper on "Nitrous Oxide-Air Anesthesia in Obstetrics." The author gave the following reasons why a combination of nitrous oxid and air gives us a means of relieving the suffering of the woman in confinement, which is vastly superior to any other anesthetic methods.

1. It is pleasant to inhale.
2. It is practically devoid of danger.
3. It is certain of action.
4. It is convenient of administration, there being no need of a trained assistant.
5. It is economical to the patient.
6. It is harmless to the mother or babe.
7. It does not retard the progress of labor.
8. It does not impair the resistive power of the patient against infectious organisms.

He reported six cases of nitrous oxid anesthesia in confinement.

Dr. A. W. Brayton, who was to report a case of lichen planus, was absent. Dr. H. O. Pantzer reported a case of gangrenous appendicitis covering symptomatology and operation.

In opening the discussion, Dr. Simonds said that Dr. Henry's case was unusual. Perforation of tubercular ulcers rare. In this case they were multiple with extensive ulceration. The ulcers were not characteristic; tubercles not present. The sections showed necrosis but no giant cells. Staining showed numerous tubercle bacilli. The lesions macroscopically looked like those of amebic dysentery.

Dr. Earp remarked that the millenium had come when babies could be delivered without pain and syphilis cured with 606. He commended the paper of Dr. Guedel, and inquired about cost and convenience of nitrous oxid anesthesia.

Dr. Dunning reported a case of placenta prævia in which version was done under nitrous oxid and ether anesthesia. Nitrous oxid is ideal in such cases, since complete relaxation with predisposition to hemorrhage is avoided.

Dr. Padgett said that he considered Dr. Guedel's work very satisfactory. Chloroform delays labor. Nitrous oxid does not. It is pleasant and pain is entirely relieved.

Dr. Egart said that he considered that the expense and inconvenience of nitrous oxid makes it impractical. The change from nitrous oxid to chloroform is not always safe. Ether is always safe. Heating makes gas less concentrated. Nitrous oxid will not replace ether.

Dr. Charlton said he had observed dental work under nitrous oxid self administered. Work could be done rapidly and without pain.

Dr. Reed said that nitrous oxid is adapted to general use but not applicable to all cases since muscular rigidity is increased. It is particularly valuable in minor cases.

Dr. T. B. Eastman said that hyoscine, morphin and cactin with ether has been satisfactory in some cases. Ether is the ideal anesthetic. Nitrous oxid has its uses.

In closing the discussion, Dr. Guedel explained that the cost of nitrous oxid was about $2 per case. It can be self administered in agreeable way. No danger since muscular spasms remove inhaler. Complete relaxation requires the combined use of nitrous oxid and a narcotic.

Meeting of October 10

Meeting called to order by president, with fifty-one members present.

Dr. J. J. Kyle presented the paper of the evening, on "The Anatomy of the Olfactory Nerve, and the Economics of the Sense of Smell," illustrating with the stereopticon. Skulls of lower animals were presented, showing the difference in the development of the turbinates corresponding to the acuteness of the sense of smell.

Dr. Brayton in discussion paid a tribute to Dr. Kyle's work. A knowledge of comparative anatomy is necessary to understand the nervous system. The nose is an important organ and far reaching in its relationship. Sense of smell of great value economically.

Dr. N. E. Jobes said that anatomists disagree in their description of distribution of the olfactory nerve. The olfactory cells are true neurons. Deep seat of sense of smell is agreed upon by all anatomists. Acuity of sense of smell is not dependent upon size of turbinates, but upon development of olfactory lobes.

Dr. Bruner, Prof. of Zoology at Butler College, discussed the comparative anatomy of the nose of vertebrates. In fish and amphibians, water furnishes the stimulus for the sense of smell. In the higher animals, air furnishes the stimulus. Jacobinson's organ is present in the higher vertebrates.

Microscopic sections were exhibited showing the olfactory mucous membrane and Jacobinson's organ.

Dr. Wales reported a case of Vincent's angina. Patient was present and ulcers exhibited. The Plaut-Vincent organism was demonstrated in stained specimens. The condition benign with no symptoms.

The president announced the following committee on arrangements for the State Association session for 1912. Drs. A. B. Graham, T. B. Eastman and C. F. Neu.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of October 17

Clinic night and meeting held at the City Hospital, with sixty members present. Minutes of last meeting read and approved. Dr. Alburger, pathologist at the City Hospital, and a member of the Monroe County Medical Society, was given the privileges of the society. The program consisted of cases presented by Drs. Wynn and Potter.

Dr. Wynn reported the following cases:

1. Chronic, general lymphatic, tuberculosis, which he differentiated from lymphatic leukemia, malignant disease, Hodgkin's disease and syphilis.

2. Tabes mesenterica of six years' duration.

3. Carcinoma of pylorus with extreme gastroptosis. Outlines of stomach were visible and peristaltic waves traveling from the cardia and meeting obstruction of pylorus were demonstrated.

4. Chronic, organic heart disease with break in compensation and extreme edema. Recovery took place under liberal use of morphin and digitalis. Dr. Wynn of opinion that the morphin contributed greatly to the recovery.

5. Colored girl, 26 years old, emaciated for one year. Positive Von Pirquet with no history of syphilis. Was discussed from standpoint of diagnosis.

Dr. Potter presented the following cases:

1. Typhoid fever with an intermittent relapse, complicated with a high, irregular temperature and chills. Temperature as high as 107. Patient exhibited and in spite of complications presented a remarkable general good condition.

2. Typhoid fever, complicated by hemorrhage. Treatment was discussed.

3. Anemia of the secondary variety, which was very extreme and due to bleeding from hemorrhoids.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of October 24

Meeting called to order by president, with fifty-seven members present. Minutes of previous meeting read and approved.

The death of Dr. Helene Knabe was brought before the society, and Drs. Wynn and Kolmer in short talks expressed the grief of the society. They mentioned especially her ability and integrity, and said that her attainments have been remarkable considering the odds she was forced to overcome. A committee was appointed to make proper resolutions and to secure a floral tribute. Drs. Wynn, Heath and Wales were appointed. The following was submitted.

"The Indianapolis Medical Society, horrified at the tragic death of an esteemed member, Dr. Helene Knabe, in sadness pays this last tribute of respect and appreciation of her character and worth. Born in poverty and struggling with almost insurmountable difficulties, she rose from peasant girl and household servant to an honored and brilliant member of the medical profession and an efficient public servant, in the capacity of expert pathologist and bacteriologist to the State Board of Health.

"Her life exhibited, in marked degrees, the virtues of courage, perseverance, purity, honor and devotion to high ideals, and her death is a distinct loss to this society, to the profession of medicine and to the community."

Dr. Freeland suggested that a fund be raised to aid in detecting the criminal. No action was taken.

The application of Dr. Charles P. Emerson, Dean of the Indiana Medical School, was read for the first time.

The society voted to suspend the by-laws and refer the application directly to the Council.

Dr. Potter brought up the question of membership for teachers who were not registered. It was the concensus of opinion that the committee on revision of by-laws make a recommendation covering the point.

Dr. C. E. Ferguson read a paper on "Puerperal Eclampsia." He reported three cases treated by the expectant method with good results. He does not believe that the radical treatment with evacuation of the uterus is necessary.

Dr. J. E. Morrow read a paper on "The Sociological Aspects of Syphilis." Dr. Morrow's paper had been very carefully prepared, and he cited statistics showing that a large per cent. of the inmates of our charitable institutions were syphilitics.

In the discussion, Dr. Beckman said that the name eclampsia originally meant "to appear suddenly." A toxemia is known to be the cause. High arterial tension is present at the beginning, with anemia, low blood-pressure and rapid heart action later on. Examination of the urine shows a deficient elimination of the nitrogen compounds and the presence of albumin. The treatment has varied. First believed that emptying of uterus was necessary, the child having a greater chance to live. If child dies, convulsions usually cease. Veratrum viride is useful in that it lowers the blood-pressure and inhibits the convulsions. Nitroglycerin is also useful. Sweating and diuresis useful measures after renal activity has begun.

Dr. Hodges said that eclampsia is due to a toxemia resulting from faulty liver and kidney action. Clinically chloroform is useful. Has had no experience with morphin. Child should be fed artificially to escape the toxicity of the milk. Two cases reported.

Dr. Garshwiler complimented Dr. Morrow's paper. He said that one woman will infect a larger number of men, the reverse not being possible. The question of the control of syphilis is a large one. Publicity probably the remedy. Many objections to publicity, and our present methods are not practical. Everything depends upon the education of the public. Care in making diagnosis is very necessary.

Dr. Cottingham said that if all the patients in state institutions infected with syphilis were reported to the public, public sentiment would be such that the disease would be eradicated in one year. The practicability of publicity questionable. Perhaps the source of infection only should be reported. Education necessary.

Dr. Morrow, in closing, said that cases which are a source of infection should be reported. The subject is big and requires careful study and education of the public.

Adjourned. Homer R. McKinstray, Secretary.

KOSCIUSKO COUNTY

The regular meeting of the Kosciusko County Medical Society was held October 31.

Dr. G. W. Anglin, Warsaw, made a report as delegate to the State Association meeting. Drs. A. C. McDonald and C. N. Howard each reported a case, the former one of exophthalmic goiter and the latter one of pulmonary tuberculosis.

Dr. C. E. Thomas, Leesburg, read a paper on "Cancer." Dr. F. J. Young, of Milford, read a paper on the "Histopathology of Tumors." Discussion by Drs. Shackelford, Young, McDonald, Bowser, DuBois, Landis and Howard.

There was a good attendance—50 per cent. of all the members being present.

Pursuant to the motion adopted at the September meeting, President Yocum announced his committee appointments for the coming year.

Adjourned. C. Norman Howard, Secretary.

MARSHALL COUNTY

The regular annual meeting of the Marshall County Medical Society was held in Plymouth, October 26, with thirty-five members present.

Dr. J. P. Simonds, of Indianapolis, gave an instructive talk on the work of the State Laboratory.

Dr. W. R. Cubbins, of Chicago, talked on the subject. "Right Side Abdominal Lesions."

Dr. H. A. Duemling, of Fort Wayne, presented a paper on "Abdominal Tragedies." He reported a number of cases in which the clinical diagnosis and the conditions found on the operating table were quite different.

Dr. J. B. Berteling, of South Bend, was on the program, but owing to sickness in his family, was unable to attend.

A banquet following the meeting was enjoyed by all present. There was a general expression of good fellowship, and the members feel that these annual meetings revive the interest of the society, and let the societies in the surrounding counties know that they are alive.

Adjourned. J. W. Eidson, Secretary.

PIKE COUNTY

The Pike County Medical Society met in regular session at Otwell, October 15. Minutes of previous meeting read and approved.

Dr. Abbott presented a little patient who was recovering from an attack of poliomyelitis.

Dr. J. F. Kime read an interesting paper on "Abdominal Pain—Its Characteristic and Diagnostic Significance." Discussion opened by Dr. Salb, of Jasper, followed by general discussion.

Several members of the Dubois County Society were guests.

Refreshments served by Dr. Abbott, president of the society.

Adjourned. E. S. Imel, Secretary.

ST. JOSEPH COUNTY

Meeting of October 2

Society met in regular session October 2. Minutes of previous meeting read and approved.

Dr. Gammack read a paper on "The Pelvic Surface Markings." General discussion.

The committee on revision of the Constitution was authorized to appoint another member to take the place of Dr. Mitchell, who is out of the city.

Dr. Varier reported progress for the annual meeting.

Motion carried that the society table the suggestion that it enter into the Men and Religion Forward Movement.

Ten members present.

Adjourned. R. C. Shanklin, Secretary.

Meeting of October 16

Society met in regular session October 16. Minutes of previous meeting read and approved. Members present eleven.

Case report by Dr. Lent. Patient woman who two months ago had a tooth extracted under local anesthesia. Later developed peritonsillar abscess, which was opened and promptly healed. Now there is a large, very hard mass at angle of jaw. No rise of temperature, no glandular involvement, but patient appears septic. Condition is probably a cellulitis, but the infection is of low virulence. Dr. Owen has recently had a similar case that was opened externally and healed nicely.

Dr. Lent made motion that Dr. Ormsby, of Chicago, be given the time he asks in presenting his paper at the annual meeting. Seconded and carried.

Library Committee reports that the Library is taking on the appearance of a reference library, but needs new books and magazines. The city will purchase books. A card index has been furnished.

Adjourned. R. C. Shanklin, Secretary.

Meeting of October 30

Society met in regular session with fourteen members present. Minutes of previous meeting read and approved.

Dr. Myers reported case. Patient man aged 26 years. At time of first visit had chicken-pox. Ten days later called for what proved to be a severe bronchitis. In one week this had cleared up and patient was able to take a ride in the country. This was followed next day by chill, temperature 102, pulse 100, and much pain in the right lumbar region. Respiratory excursion same on both sides but higher on right. At no time any urinary symptoms, though gave history of gonorrhea eight months previous. Inspection of back disclosed slight prominence below ribs on right side in kidney region and a thoracic fulness, but puncture revealed nothing. Blood count gave 37,000 polymorphonuclears. An excellent x-ray picture showed a distinct dense area in the right kidney region. Operation refused. Death on tenth day. No autopsy. Was case of perinephritis abscess.

Dr. C. A. Daugherty read an excellent paper on "The Gall-Bladder, Its Anatomy, Physiology and Pathology." Discussion general.

Dr. Miller, as chairman of the Constitution Committee, reported on revision of the Constitution. Motion carried that the proposed revision be printed or typewritten and forwarded to each member.

Adjourned. R. C. Shanklin, Secretary.

STATE ASSOCIATION MEMBERSHIP

The following is a list of those who have paid Association dues between the dates Oct. 1 and Nov. 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the October number includes all those who paid dues to October 1, or up to 2417, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the September, October and November numbers constitutes the mailing list of The Journal, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address.	County Society.
2418	E. W. Longnecker, Anderson	Madison
2419	C. Cook, Fowler	Benton
2420	F. E. Abbett, Indianapolis	Marion
2421	F. M. Perkins, Pennville	Jay
2422	V. A. Magenheimer, Mooresville	Morgan
2423	U. G. Powers, Albany	Delaware
2424	Z. C. Wolfe, Corydon	Harrison
2425	T. P. Govan, 223 State Life Bldg., Indianapolis,	Marion
2426	H. B. Gudgel, Hazelton	Gibson
2427	J. A. Leas, Indianapolis	Marion
2428	S. A. Johnston, Willoughby Bldg., Indianapolis,	Marion
2429	W. P. Alexander, Gary	Lake
2430	D. R. Ulmer, Terre Haute	Vigo
2431	T. W. Moorehead, Terre Haute	Vigo
2432	T. B. Johnson, Jamestown	Boone
2433	B. S. Hunt, Farmland	Randolph
2434	L. N. Davis, Farmland	Randolph
2435	W. E. McJohnston, Terre Haute	Vigo
2436	W. H. Wishard, Indianapolis	Marion
2437	C. A. Dresch, Mishawaka	St. Joseph
2438	Alice L. Hobbs, Indianapolis	Marion
2439	C. M. Mix, Muncie	Delaware
2440	O. J. Hetsler, Blountsville	Henry
2441	W. C. Van Nuys, New Castle	Henry
2442	J. B. Blair, Lewisville	Henry

BOOK REVIEWS

Gonorrhea in the Male. A Practical Guide to its Treatment. By Abr. L. Wolbarst, M.D., Consulting G.-U. Surgeon, Central Islip State Hospital, etc. Cloth. Pp. 181. Published by the International Journal of Surgery Co., New York, 1911.

This little work is commendable for its conservatism, in that it enters a plea for more careful and less heroic treatment of these cases, advocating less direct interference and weaker drugs in the treatment of the malady. The author's warning not to consider a case cured because gonococci are not found in the urine, and on this evidence consent to marriage, is well taken, and is aptly illustrated by a case in which five repeated and careful microscopic examinations failed to reveal gonococci, which were, however, disclosed by an examination of the prostatic fluid following an injection of silver nitrate.

Studies in Cardiac Pathology. By George W. Norris, M.D., Associate in Medicine at the University of Pennsylvania. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net.

This beautiful work is made up of a series of photographs of various heart specimens taken from the museums of the five most important hospitals of Philadelphia, together with a considerable amount of data, both pathologic and bibliographic, concerning the conditions presented. The author does not claim for his work the place of a complete work on the pathology of the heart.

The work of the photographer is indeed beautiful, and that of the printer, as manifested by the type, paper and freedom from typographical errors is also of a very high grade of excellence.

Report from Pathologic Department, Central Indiana Hospital for Insane. Vol. II and III, 1906-07, 1907-08, 1908-09. Printed by Wm. Burford, State Printer, Indianapolis, 1910.

Volume II is made up of Supt. Edenharter's statement to the Board of Trustees,-a very creditable sum-

mary of two years' work in the pathologic department, by Dr. Monger, and a series of short papers prepared by him for publication.

In Vol. III in addition to the statement of the superintendent, there appears for the first time a summarized statement of the clinical work obtained from a systematized method of investigation followed by the pathologic summary, and some papers prepared for publication.

The Care of the Baby. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the University of Pennsylvania. Fifth revised edition. 12mo of 455 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $1.50 net.

The appearance of the new fifth edition and the frequent exhaustion of the publishers' supply of this work prove both its excellence and the sustained demand that it has enjoyed.

There are many times that a mother finds herself thrown upon her own resources for the time being, either because her physician is not immediately available or else the question is one wherein an intelligent woman can find solution in a simple guide such as is offered by Dr. Griffith, without the actual necessity of calling a physician. Such a work must, of necessity, serve the double purpose of inspiring a reasonable amount of confidence in the conscientious mother who may thus inform herself as to what to expect and provide for, and of teaching her just where the danger point lies at which she should immediately seek medical aid.

In a point or two we would take issue with the author, as for example, the postponement of the operative cure of cleft palate to two years. But in the main the book is made up of good, wholesome advice, invaluable to any mother who wishes to exert the maximum amount of intelligence in rearing her children.

Dorland's American Illustrated Medical Dictionary. Sixth revised edition. Edited by W. A. Newman Dorland, A.M., M.D. 986 pages. Flexible leather. $4.50, net; thumb indexed $5.00, net. W. B. Saunders Company, Philadelphia and London.

Dorland's dictionary is well known, having passed through five editions, but this new or sixth edition is really a new work from the fact that it has been entirely reset from A to Z, and many additions and corrections made. This new edition contains over 7,000 new words, and every word is given a definition that defines in the fewest possible words. Another valuable feature is the fact that every word is given the correct pronunciation. Many dictionaries give only the accent. It also makes a feature of the derivation or etymology of the words. Veterinary and dental terms with full definitions are given and the usual dosage and therapeutic tables are included.

A new feature is that of incorporating short medical biographies in which the full name, nationality, specialty and dates of birth and death of men whose names have been given to diseases, structures, procedures, etc., are accurately given. There are also short biographic sketches of the "fathers" of medicine.

The publishers' work has been well done. The book is bound in flexible leather and thumb indexed. It contains 323 illustrations, 119 of which are in colors.

In many respects the Dorland dictionary is superior to any on the market, and we have no hesitation in recommending it as being sufficiently comprehensive for any medical practitioner.

Nostrums and Quackery. Based on articles on the Nostrum Evil and Quackery in The Journal of the American Medical Association, with additions and elaborations. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1; with individual's name on cover, 25 cents extra. Pp. 509, with 220 illustrations. Chicago: American Medical Association, 535 Dearborn Avenue.

Every physician whose patients ask for information regarding the efficacy of certain "patent medicines," advertising specialists or other quack treatments, and every layman who desires information on the same subjects, will find "Nostrums and Quackery" an invaluable volume. This means that practically all the medical men and a large proportion of the public have use for a book of this kind. In the last few years The Journal of the American Medical Association has published a number of articles dealing with the "patent medicine" evil and quackery. The book "Nostrums and Quackery" contains all such articles, elaborated in many cases and embellished with numerous illustrations, while in addition it contains some matter never before published.

The articles in the book do not deal with generalities. They are specific and to the point; they call a spade a spade. The investigations have been made with a thoroughness that leaves the reader in no doubt as to the fraudulence of the quacks' claims or the worthlessness of many "patent medicines." Furthermore, the statements are authoritative, for it is evident that the Association could not afford to speak as plainly as it does if it were not absolutely sure of the facts. In many instances chemical analyses, made in the Association laboratory, are given.

The book consists of three parts, Part I devoted to quackery, Part II to nostrums, and Part III to miscellaneous subjects. These parts are again divided. Under Quackery, for example, we find sections devoted to "Advertising Specialists," "Cancer Cures," "Consumption Cures," "'Female Weakness' Cures," "Medical Institutes," and other concerns of a similar nature. Under Nostrums there are sections devoted to "Asthma Cures," "Cough Medicines," "Hair Dyes," "Laxatives," "Obesity Cures," "Rheumatism Cures," and other typical nostrum groups. In the Miscellaneous section there are discussed such subjects as "The American College of Mechano-Therapy," "Patent Medicine Makers and the Press," "Molding Opinion in Food Preservatives," and others of equal interest and importance. In fact, the book is not only a *vade mecum* on the nostrum evil but a veritable "Who's Who" in quackdom.

"Nostrums and Quackery" is published primarily to enlighten the public regarding fakes and fakers. It is a duty of every physician to see that his patients become familiar with the contents of this book. The Association is prepared to furnish it in quantities at a very low figure; it also supplies a copy intended for use in the reception room, with the physician's name printed thereon.

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ORIGINAL ARTICLES

UTERINE FIBROMYOMATA *

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VALPARAISO, IND.

The present status of opinion with reference to the treatment of uterine fibromyomata seems to be: Operate only when the tumor produces symptoms.

This sounds reasonable. If a symptomless fibroid constitutes an innocent fibroid it is good teaching. But does it?

We might say the same thing about a tumor in the breast, or an ovarian tumor, or a pigmented nevus. Strictly speaking there is no such thing as a symptomless fibroid. The mere presence of the tumor is an objective symptom, and the knowledge of its presence, with aroused apprehension, constitutes a subjective symptom — one which ought to be reckoned with at all times. I have seen women who entertained such fear of small uterine fibroids that they persistently declined the responsibilities of pregnancy.

It seems to me that there is another basis on which to rest our treatment — the basis of pathology. It may be that a potential danger lurks in a so-called symptomless fibroid — a danger which may outweigh operative mortality or other reasons commonly advanced for non-interference. Let us see:

Degenerations and complications are exceedingly common in these tumors. The fibrous tissue which characterizes them is responsible for many of these changes. It compromises the blood-supply, and results in practically every case in hyaline changes of greater or less extent. They are subject in fact to almost every form of degeneration, not even excepting malignant change.

In a series of 2,274 cases studied by Noble he found degenerations and complications in 1,553, or 68 per cent. In the tumor and uterus alone changes existed in 655 cases, or 28.8 per cent., leaving 39.2 per cent. of complications elsewhere.

In a later review of 3,561 cases tabulated by Tracy, of Philadelphia, he found 1,338 cases of degenerations and complications, or 37.5 per cent. Tracy was careful, however, to exclude from his list of complications everything not traceable to the tumor itself as a cause. In the tumor and uterus he found changes in 1,147 cases. This is 32.1 per cent., or 3.3 per cent. more than in Noble's series. His complications elsewhere, however, number only 191 (5.4 per cent.) as against 39.2 per cent. in Noble's series.

These writers took a different view as to what complications should be enumerated as existing *outside of the uterus*, but in the matter of changes *in the tumor and uterus* their figures are practically the same.

Commenting on the reliability of his statistics Noble says: "There is no doubt that numerous degenerations and complications have been omitted in my early cases, because at that time I was not in the habit of making such careful records when a patient was operated on for fibroid tumor. That diagnosis alone was recorded. Hence the facts as to degenerations and complications in my own series (337 cases) are worse than the figures given."

In an exhaustive analysis of the statistics other than his own, he reaches the same conclusion, viz., that the facts are worse than the figures.

Take, for instance, cancer as a complicating factor. In his 2,274 cases there occurred forty-three cases of adenocarcinoma of the fundus (1.8 per cent.) and sixteen cases of cancer of the

* Read before the Indiana State Medical Association, at Indianapolis, Sept. 29, 1911.

cervix (0.7 per cent.). This gives a total of 2.5 per cent.

Contrast with this his last 100 cases (where careful records were kept). Here we find six cases of adenocarcinoma of the fundus and two cases of cervical carcinoma — total *8 per cent.*

In this connection, Piquand states that cancer of the corpus uteri is eight or nine times more frequent in women having fibroid tumors than in those without this lesion.

In a study of 406 uterine myomata Klein reports that in 206 patients operated on there existed malignancy in ten cases, or 4.85 per cent.

This view, that fibromyoma predisposes to uterine cancer, is also held by Winter, Cullen, and other investigators.

Other degenerations and complications in the tumor and uterus demand our attention. Referring again to Tracy's table of 3.561 cases we find necrosis occurring in 4.9 per cent. This is a dangerous complication, leading to infection, thrombosis and embolism. Myxomatous degeneration is recorded in 4 per cent.: calcareous infiltration in 3.5 per cent.: cystic degeneration in 3.5 per cent.: hyaline change in 1.8 per cent.; malignancy in 4 per cent., and intraligamentous development of tumor in 4.8 per cent. In lesser percentages we find edema, hemorrhagic degeneration, hemorrhage into the tumor, twisted pedicle, torsion of tumor, incarceration of tumor, subvesical development of tumor (a serious complication), adenomyoma, adenoma of corporeal mucosa, endometritis, and polypoid degeneration of the mucosa — all of these changes in the uterus and tumor.

And these findings are tabulated from the cases of Martin, Noble, Cullingsworth, Frederick, Scharlieb, Watt-Keen, Hunner, McDonald, Lauwers, Eastman, Webster, F. H. Martin, Cazenare, Giles, Sarwey, and Jacobs.

This same series shows conditions in 10.5 per cent. of the cases, due directly and solely to the presence of the fibroid tumor, which would probably have resulted in death without operation. Carcinoma of the cervix and chorio-epithelioma were excluded because they were considered associate conditions. The writer says further: "There is no doubt but that a few cases of cystic and myxomatous degeneration would progress and probably increase the mortality 2 or 3 per cent., thus making the mortality without operation from 12 to 14 per cent.

It is held by most of the writers enumerated above that sarcoma results, directly or indirectly, from degeneration. Scharlieb found sarcomatous changes in 6 per cent. of her cases. McDonald found 3 per cent.: J. W. Webster 2 per cent. Among those who support this theory are Kelly and Cullen. Other authorities equally good deny that sarcoma is the result of degeneration. Certain it is that this form of malignancy is regularly found complicating fibroids in from 2 to 4 per cent. of cases.

Aside from the foregoing degenerations and complications, we must reckon with the effects produced by these tumors on neighboring and distant organs. Many of these complications are due to pressure. When we consider the anatomy of the pelvis this is apparent. The organs most exposed to pressure from this source are the bladder, urethra, ureters and rectum. The subvesical and intraligamentary growths are probably capable of the greatest harm. In my own experience I had one case in which the bladder was carried almost to the umbilicus by a large fibroid. So firmly was it attached that separation was extremely difficult, and the operation was still further complicated by distortions and displacements of adjacent structures until nearly every landmark in the pelvis was obliterated. The most distressing symptoms in this case were referable to the urinary tract.

Tumors situated in the broad ligaments, although small in size, may cause serious pressure on the ureters, with resulting hydrureter and hydronephrosis. Knox reported a series of cases in which the ureters were carefully observed at the time of operation, and in a good proportion of the cases obstruction was found.

Pressure on the rectum is often responsible for auto-intoxication, and possibly anemia, both of which are common associate conditions with fibroids.

Cystic and other degenerations of the ovaries are commonly met with, also hydrosalpinx, pyosalpinx, salpingitis, varicose veins in the pelvis, adhesions, intestinal obstruction, hematosalpinx, etc.

Kelly and Cullen, in their recent monograph, direct attention to the tendency at times of the tumor to become detached from the uterus, and the resulting parasitic nature of the detached portion.

Still other complications closely associated are, ovarian hematoma, papillary carcinoma in the ovary, abscess in ovary, parovarian cyst, cysts and hematomata in broad ligament, abscess in broad ligaments, thrombosis in veins of pelvis and lower extremities, chronic pelvic peritonitis, and tubercular peritonitis.

There is no doubt in the minds of many that fibromyomata are likewise capable of influencing organs quite remote from the pelvis.

We are all familiar with the grave anemia met with as a result of hemorrhage in these cases.

That they produce functional changes in the organs of circulation there is no doubt, and there has long been a belief that organic changes in the heart and blood-vessels may result therefrom.

In a recent article by R. L. Payne we find an interesting and instructive description of this phase of the subject. He not only believes in the frequency of cardiovascular complications, but undertakes to show that circulatory disturbances may improve or disappear after operation.

Boldt has written a masterly article on the cardiovascular associations in connection with these tumors. In a very recent publication John A. McGlynn, of Philadelphia, has tabulated the heart lesions found in 113 autopsies of women dying of uterine myomata. His conclusions are that "a definite entity of a fibroid heart cannot be sustained." So that is still an open question.

Thrombosis, embolism and phlebitis are said to be more common in connection with myoma than in any other gynecologic condition. Baldy and Schenck have given us valuable statistics on postoperative mortality from these complications.

J. R. Eastman has recently directed attention to the probable relationship which may exist between fibroids and goiter, with report of a case in which operation was followed by improvement, both local and general, in thyroid enlargement.

Literature is replete with statistics showing that fibromyoma leads to pathologic conditions, wide-spread, diversified and dangerous. The most serious of these lesions often arise from delay. As a rule, the older the patient and the older the tumor the more complications exist.

Finally, as I intimated in the beginning of this paper, we cannot ignore the mental suffering which arises from a knowledge of the presence of a tumor in the uterus.

To my mind these facts argue for earlier and more frequent operations. Why wait for symptoms? Usually when symptoms arise the fibroid is no longer an innocent growth.

I do not say that every fibroid should be removed. I cannot, however, subscribe to the dictum: Operate only when symptoms are present. My position, rather, is this: Operate unless some contra-indication exists. In other words make operation the rule, and expectant treatment the exception.

CONCLUSIONS

My conclusions then are as follows:

1. Our treatment should be based on potential pathology rather than on individual symptoms.

2. Statistics teach us that degenerations and complications are very common and wide-spread.

3. From 12 to 15 per cent. of cases not operated on will probably die as a result of the tumors.

4. Inasmuch as mortality from operation in favorable cases is very low (probably 1 to 3 per cent.), we should make it a rule to advise operation unless contra-indication exists. [Contra-indications: grave anemia, pelvic infection, pregnancy (unless tumor is liable to complicate delivery) — these are examples.]

Finally, I would have you bear in mind that I said "make it a rule" to advise operation. Every rule has its exceptions, and here, as elsewhere, the exceptions should be determined only by an experienced operator.

DISCUSSION

Dr. T. B. Noble, Indianapolis: Mr. Chairman and Gentlemen: I subscribe to every word which Dr. Young has enunciated. I wish to criticize him for not properly naming his baby. "Uterine Fibromata," I believe, appears on the program as his subject, and I knew not whether he was going to discuss causation, complications, treatment, or what not. The subject of uterine fibromata is a very wide and interesting one, and yet in his paper he deals very largely with the subject of treatment, pleading logically and properly for a more prompt treatment, logical treatment, which is surgical, of this condition which threatens the life and destroys the health of many, many women.

Relative to the causation of uterine fibromata, we know but very little. Uterine fibromata occur notoriously among the colored race, and are not at all uncommon with other races. They occur in the married and single. They occur with the nulliparous and multiparous, and they occur notoriously with the nulliparous types. Yet there is nothing in race, there is nothing in habit, there is nothing in age, there is nothing in occupation, social relationships, climate, environment, or what not which will account for these growths; but that they do occur we all know and that they do invalidate and kill we all know.

The doctor argues for an early recognition and early removal of these growths, which I think is distinctly a correct ground to occupy. An argument which calls for the removal of a growth that is going to destroy a valuable organ is logical ground to take. The removal of the uterine fibromata before the destruction of the uterus, which it will destroy, the argument, I say, for an operation for the removal of such a growth before that occurs is correct and right, long before it produces any subjective signs, as the doctor says, only the objective symptoms discovered by the observer. That these fibromata, if allowed to go on, will produce systemic changes which virtually preclude a successful operation, even though the patient herself may be on her

feet, is a fact. The more experience I have myself, the more I observe and study these interesting things, the more I am led to believe that there is such a thing as a fibro-toxin, that there is a secretion from these fibromata which destroys the circulatory system as a whole, producing directly a deleterious influence on the blood itself, the blood-vessels themselves, and particularly on the heart muscle itself. So that, though you may take a woman who is on her feet and is in a fair condition to the hospital and remove that growth and do it successfully, quickly and satisfactorily, and things may progress for days or weeks, sudden death may happen as the result of the conditions which have existed for months and years prior to your operation. You may call it fibromatic change, or what not; that is begging the question: that doesn't account for the clinical picture which you see and which is your great disappointment, occurring oftentimes when you expect your patient to leave the hospital and go home.

As to the treatment, let us first do what Dr. Young says, recognize these tumors early and remove them at a time when we can save the uterus to the woman. If not that, let us remove this tumor and the uterus before secondary death-dealing pathologic changes occur. Let us then do a complete operation. I am radically opposed to the technic very commonly employed in this class of cases of the removal of the uterus by supravaginal amputation. It is an easier operation and a little bit quicker and attended with a little less danger to the uterus, but all these things can pass away if a man be at all careful, and save the individual the dangers of malignancy springing up in a cervix which is left to no purpose whatever. It has been claimed that the use of the cervix is to support the bladder and rectum. I do not believe any such thing. It is not necessary. It is a functionless affair and when left there is a menace to the life of that woman so long as it remains. In eighteen months, I have seen three women coming to me ranging in age from 31 to 45 who were operated on years ago by a grand man who has gone to his reward leaving these cervices, which have meant the death of these women, for the reason that they have undergone malignancy and have crept in on adjacent tissues to such an extent that further operation is wholly out of order. I argue, then, with Dr. Young, for everything that he says for an early recognition and early removal, and a thorough one.

DR. A. S. JAEGER, Indianapolis: There can be no gainsaying the fact that fibroid conditions of the uterus are absolutely surgical in treatment. This is proved by reason that after all the different methods which have been devised by Europeans and Americans to cure these conditions without the use of the knife, we are still compelled to resort to the knife to make complete cure possible. It all depends on the character and location of the tumor as to how much surgery should be done.

The specific operation also depends much on the skill and individual preference of the operator. I cannot subscribe to Dr. Noble's practice of doing a panhysterectomy in every case of fibroid involvement of the fundus, as I believe the cervix, in a way, does its part in maintaining the integrity of the pelvic floor; so in cases in which I find a serviceable cervix, I retain it, and if found necessary do a plastic operation on the vagina. So far I have seen no bad after-effects following this method.

We all can readily see how easy it is for many of these tumors to degenerate and cause the systemic conditions the doctor has so aptly described. In the majority of instances the degeneration does not occur *externally* or peripherally, but *centrally* so that the toxin is present and being absorbed into the system long before such systemic changes, as have been mentioned, are clinically apparent; and in such case we invariably have a weakened woman to operate on, and even if the operation is successful, she remains weak and ailing for a greater or lesser period of time as a result of the great drain on the system before operation.

We have two types of uterine fibromata, one composed of striated muscle fiber and the other of non-striated muscle. While the striated muscle fibromata are rare, nevertheless they occur in about 2 per cent. of the cases. This is the form of a tumor which usually is considered congenital, and invariably becomes malignant. Many of us forget that this form may occur in young women, and when we see a uterine enlargement in a young girl or young matron, the rarity of the true condition causes us to overlook the possibility of myomatous sarcoma, and we allow it to go on until a necessarily radical operation does not promise the good result an early extirpation would have given.

According to text-books, it would seem an easy matter to make a differential diagnosis of fibroid tumors, but I believe any of us who has had much experience with these conditions, finds very frequently that it is a difficult matter to make a diagnosis before operation. There is practically no gynecologist living to-day who at some time or other in his career has not mistaken a pregnant uterus for a fibroid tumor. Another thing the text-books mislead us about somewhat, is hemorrhage. While it may be a frequent sign of uterine fibromata, in the majority of instances we do not have the excessive and constant hemorrhage so largely treated of in such books. At least this has been my individual experience, and I have seen well-developed uterine fibromata of long standing in which the hemorrhage has been intermittent and slight. By this, however, I do not wish to undervalue bleeding as a symptom, for I believe that recurring hemorrhage no mat-

ter how slight should at all times cause us to consider the possibility of uterine fibroid.

Dr. A. M. Hayden, Evansville: I want to emphasize the importance of recognizing these tumors and operating. Of the several hundred fibroid tumors I have removed, from 15 to 20 per cent. have been complicated, some with sarcoma and some with carcinoma, and I want to say emphatically that every fibroid tumor of the uterus should be removed at the very earliest moment that it is recognized, every one, I say, without exception. It is a condition that can only be relieved by a surgical operation and leaving it there is a menace to the life of the woman. There are so many cases of cancerous degeneration. I remember one case that died after removing a fibroid uterus of cancerous degeneration; she made a beautiful recovery and died a short time afterward of recurrent carcinoma. There is a danger in as many as 4, 6, 8, 10 or 15 per cent. by delaying the operation. We should, as surgeons, do away with that danger by advising immediate operation and not postponing it for the development of any subjective symptoms. The moment it is recognized it should be removed.

Dr. H. O. Pantzer, Indianapolis: I wish to commend the earnest and comprehensive discussion of the subject. In a general way, my ideas stand firmly with all that has been said. The only restrictions I would have placed on the dictum, of an operation in every case of fibroid, pertains to cases where collateral conditions may contra-indicate it. I was present when Dr. Charles Noble of Philadelphia read the paper frequently referred to by the essayist. At that time, and again to-day, I was impressed with what seemed to be a misleading conclusion or statement. Dr. Noble enumerates in per cent. the frequency of occurrence of each complication. Many of these complications occurred two, three or four in a single case. This presentation easily misleads, giving the total percentage of complications as relatively too great for the total number of cases. That should not, however, detract from the conclusions drawn by the essayist, which, I think by general consent, are those drawn by men who are the practical workers in this field.

I would take issue with those who invariably do, or at least advocate, in these cases a complete hysterectomy. The cervix forms in good part the mechanical and physiologic support of the rectum and bladder. A woman who undergoes the operation of panhysterectomy may not show any appreciable unfavorable results immediately after operation, but, later, after fifteen to twenty years, these may become apparent. The question, whether the mechanical supports of bladder and rectum are invalidated by the operation of complete hysterotomy, is not easily settled.

Like in the case of perineal and parametrial tears after childbirth, the consequent prolapse of the uterus, bladder and rectum may not develop until many years afterward. We have only done panhysterectomy less than twenty years. It is impossible at this time to gauge collateral and ultimate effects of panhysterectomy. It is indisputable that the normal innervation and circulation of bladder, uterus, vagina and rectum obtain by common nerve and vessel trunks and branches, which intercommunicate intimately and freely. The multiple severance of vessels and nerves incident to panhysterectomy is, as may be assumed by a priori reasoning, of great weakening effect on the remaining organs. In fact, I have frequently found atrophic changes, similar to senile changes in such cases. One case in particular demonstrates this. A mother of three children, age 28, three years before I saw her had the internal genitalia ablated on the indication of epilepsy. A short, atrophic, dry vagina, atrophic and irritable bladder, and a distinctly senile rectum were observable in this case. For such reasons, I shall continue to prefer the supravaginal hysterectomy in all cases of fibroids admitting of this lesser operation.

Dr. E. H. Griswold, Peru: Dr. Young draws a difference in his reason for operation; first, that complications may arise in a condition of fibroid uterus of a cancerous nature; second, between the operation of removing the tumor—Dr. Noble the same — and of removing the fibroid producing organ entirely. Now, the question arises if it is wise to remove the fibroid early because complications may arise that may be more serious, why isn't it more advisable if operation is desired at all to remove the entire fibroid producing organ? Many, many times in the removal of these fibroids, you leave an apparently healthy uterus behind, and if you took out that uterus and dissected it you would find similar fibroids distributed through it. Now, those little fibroids that you leave there after removal of the greater one will become larger and subject the patient to as harmful conditions as she had at the beginning.

I want to agree with Dr. Pantzer in regard to the vaginal form of operation, hysterotomy. To avoid the subsequent occurrence of the malignancy of the cervix which in the majority of these cases is so rare as compared to the damage of removing the mechanical support, panhysterectomy is not to be commended, unless there are specific indications for the removal of the cervix.

A question I want to ask Dr. Noble is, what percentage of cases that have the complete hysterotomy complain afterwards of the distressed condition of a dry and irritable vagina?

Dr. Noble: I do not have that to complain of at all.

Dr. C. K. Bruner, Greenfield: I know of a case that Dr. Noble operated in which this symptom persisted and is extremely troublesome.

Dr. Goethe Link, Indianapolis: I want to pass the question in regard to the cervix and

briefly discuss the symptoms of fibroids with relation to operating. The symptoms due to fibroids in the uterus may depend on three factors, roughly stated. First, the effect on the uterine functions; second, the effect on neighboring organs, and third, the effect on the systemic circulation. The first condition depends on the proximity of the fibroid to the endometrium. The closer the fibroid is to the endometrium the more apt it is to act as a foreign body and cause the uterus to try to expel it, thus leading to pain and a dilated cervix. The effect on neighboring organs is apt to come later, and is merely due to the presence of a large foreign body in the pelvis, pressing against the bladder or the rectum. The effect on the systemic circulation has been well brought out by Dr. Noble. I recall one case in which an undertaker who tried to inject an embalming fluid into the vessels of a victim of advanced fibroids, found the arterial circulation so rotten, as he expressed it, that it would not hold the fluid. Now, we must depend on the effect on the uterus and the neighboring organs to get our patients to us, because these are the conditions that produce the symptoms. We should bear in mind that a great many fibroids occur which are not close to the uterine cavity and they do not produce symptoms until they get large, and the systemic effect of the uterine fibroid is progressing just the same. These patients often come to us in such a condition that they will not stand operation, and it is this class of patients that gives the mortality. If the cases reach the surgeon early, the mortality is very low, not more than 1 or 2 per cent. The point I wish to make is: that the severity of symptoms is not a true index of the need for an operation.

DR. YOUNG: I am somewhat surprised, and agreeably so, at the unanimity of opinion which exists with reference to the essential conclusions of my paper. Able men have held to the contrary, that these tumors should only be removed when they produce symptoms. In this paper, I have purposely omitted a discussion of treatment aside from surgery. I have argued for early recognition of the tumor and early removal. My reasons are that there exists in every fibroid a potential danger—a danger which exists to the extent that if it be allowed to go on there may be, and probably will be, a mortality in every twelve or fifteen cases, while with modern surgery the mortality in early cases will not exceed 1 or 2 per cent. Hence my conclusions.

I thank you.

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INJURIES IN AND ABOUT THE ANKLE *

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The various injuries may be enumerated as burns, scalds, contusions and bruises, sprains and strains, cuts and lacerations, fractures and dislocations. It would be impossible to compass the whole in so brief a paper. It would be well, therefore, to confine the discussion to the more important injuries to which the ankle is subject, that of sprains, fractures and dislocations. This I take it was the intention of the program committee in assigning the subject "Injuries in and about the Ankle Joint."

It has often occurred to me that an intelligent and profitable discussion of any special feature of surgery before a body of practical gentlemen such as ours, should eliminate the text-book feature so often adhered to and discuss the subject as we practice it daily in the field, home and hospital. Hence we start with this general proposition: An accident has occurred and we have been called to attend a patient who has received an injury to his or her ankle. The first inquiry of the mind is, What is the nature of this injury? An accurate diagnosis is the first and most important step in the procedure. How are we to arrive at an accurate and satisfactory conclusion? The first is by a history of the manner of receiving the injury. Was it direct or indirect violence? Did the patient simply turn the ankle by stepping on some uneven surface, some slippery object, fall from a step or down stairs or

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from a ladder or other high object, or was he struck by some flying object, or crushed between two opposing objects, etc. The manner and degree of violence determined, our diagnosis is, in the majority of cases, made and requires only an examination of the case to confirm it.

Sprain is the most common and frequent injury to the ankle owing to extreme flexibility, to weakness induced by the constant wearing of shoes or boots, and the tendency to narrowing of footwear. If we went barefoot during the entire growing period of life I believe the tendency to sprain of the ankle would be markedly lessened. The feet would develop a broad surface to stand on, and the unsupported ankle would develop ligaments and tendons equal to the proper bearing function of the ankle.

Sprain is an injury by direct or indirect violence, so disturbing the normal relation of the joint structure as to do violence to the synovial membrane, the ligaments and tendons, or to all these. A simple sprain of the ankle always is a turning of the foot inward by some force moving the joint beyond the normal limit of motion.

The first and most important point in the consideration of sprain is a correct knowledge of the manner of receiving the injury.

Pain, tenderness, limited motion and inability to walk, swelling and ecchymosis may not be present. The pain, swelling, inflammation, impairment of function, etc., minus the history, are not conclusive evidence of injury, but may be due to disease. Therefore, careful differentiation is important, and especially is this important when liability may lie in railroad accidents when passengers or employees have received complicating injuries.

If the sprain is a simple turning of the ankle, the lateral ligaments only are involved, and the only symptom manifest is pain on pressure just below and behind the malleoli. If the synovial membrane has received the greater injury, tenderness may be elicited just anterior to the external malleolus where also a synovial pouch may be seen and felt.

In severe sprains the superficial structures are more or less involved and the joint is marked by a more general swelling, which may extend to the foot and lower third of the leg, and a great degree of ecchymosis may be present. This condition renders the diagnosis of recent sprain or contusion usually not difficult. But the milder form may be chronic sprain which resembles tuberculosis and arthritis deformans. Hence the importance of history in the case, the exact manner and instrumentality producing the injury. Even then we cannot be absolutely sure of a correct diagnosis in every case.

I had a patient recently who came with a history of sprain. The only objective symptom of sprain was tenderness anterior to the external malleolus, limited motion, and pain on abduction. The pain was undue as compared with the physical signs. In a few days pain developed in the knee and simultaneously diminished in the ankle, with elevation of temperature. Diagnosis of sprain was changed to articular rheumatism.

Allow me to mention here that frequently sprains will excite acute exacerbation of latent rheumatism and compromise the consequences from a legal as well as medical aspect.

Mediotarsal sprain is of less frequency and is usually produced by suddenly placing the body weight on the ball of the foot without proper guard or by having the metatarsus forcibly rotated downward and inward. Tenderness and swelling will be noted on the dorsum of the foot over the mediotarsal joint, a favorable location for tubercular manifestation. Hence history of alleged injury is important.

Contusions of a very severe nature are very common to this region, especially among railroad employees. A shoe is caught in a frog and the foot bruised by a passing wheel, or a car wheel may pass entirely over a foot without destroying it, and produce nothing more than a very severe contusion of this region. This may seem incredible but it is true. A very heavy soled shoe with a large stout heel is caught under a moving wheel, the wheel is elevated sufficiently to prevent complete crushing of the foot and by the time the wheel again comes in contact with the rail it has traveled far enough to pass completely over the foot. I have satisfied myself of this by examination of the shoe together with the evidence of the injured and witnesses.

Dislocations of the ankle are four: backward, forward, inward and outward. Backward is the most frequent, and usually complicates fracture of the fibula, and, necessarily, is accompanied by extensive laceration of the lateral ligaments. In forward dislocation the fibula is seldom fractured, but the internal malleolus usually is.

Lateral dislocation of the ankle-joint cannot occur without fracture of one or both malleoli. The outward is more frequent than the inward. Diagnosis is usually very easy from characteristic deformity.

Rotation dislocation of the ankle is very rare and the diagnosis easily made from the position of the foot.

Sub-astragaloid dislocations are of four varieties: forward, backward, inward and outward.

Total dislocation of the astragalus, which is more frequent than the former or of the ankle, is of six varieties: forward, outward and forward, inward and forward, inward and backward, and by rotation. The outward and forward is the most frequent. Diagnosis is made by noting the characteristic deformity.

Fractures complicating the ankle-joint are: those of the lower half of the lower third of one or both bones of the leg. They include Potts' fracture, fracture of the os calcis, astragalus and tarsal bones, or crushing injury of any or all of these several bones and the fractures mentioned with the dislocations of the ankle. The diagnosis of fracture above the ankle and of Potts' fracture is usually not difficult. Yet I have seen a number of these fractures diagnosed as sprains. The characteristic deformity of the Potts' fracture, and the crepitus and mobility of the long bone, is conclusive evidence, but that of the astragalus, os calcis and tarsal bones is very difficult, and in every instance of supposed fracture of these bones resort should be had to the *x*-ray for confirmation. In fact every severe sprain as well as every other severe injury to the ankle should be *x*-rayed for doubtless many long, tedious and imperfect recoveries from a so-called sprain have been the result of treating fractures as simple sprains.

With this great variety of possible injuries to an ankle-joint confronting us when called to treat a patient, we nevertheless approach with a great deal of confidence and little anxiety as to the probable finding. In the vast majority of cases we expect to find one of four conditions: a sprain, simple or severe, a Potts' fracture, a fracture of the leg, or a crushing of the ankle. Diagnosis here as elsewhere is half the treatment, yet I wish to say that often a Potts' fracture is treated for a sprain and sometimes a foot amputated that might be saved. Diagnosis should not rest with determining the peculiar character of injury, but as much or more on determining the extent of the injury to the whole member, soft structures as well as bones, in order to be able to make a favorable or unfavorable prognosis, and adopt the proper line of procedure.

No specific lines of treatment can be adopted with uniform success, but the principles of surgery must be applied to meet the requirements of each individual case.

Fractured bones must be approximated and maintained in position. Dislocations should be reduced and proper fixation dressings applied. Severe contusions if attended with rupture of blood-vessels and the formation of hematomas should be freely incised to relieve pressure and prevent necrosis of soft tissue or perhaps destruction of the limb as a whole.

Less severe contusions should receive evaporating lotions or cold compresses. The minor sprains are better treated with a supporting dressing of adhesive plaster.

With due regard for this multiplicity of possible conditions a diagnosis is made, the patient advised of the condition, the probable result and the necessary treatment.

In treatment of a Potts' fracture or outward dislocation of the ankle, forcible adduction of the foot should be made and maintained. In fracture of the extremity of either or both bones of the leg adduction, but of less degree than in Potts' fracture, should be made and maintained, and for the reason that in both of the fractures outward rotation is the tendency when the patient resumes walking. In fractures of the smaller bones of the foot, plantar flexion should be maintained to prevent falling of the normal arch of the foot. In the treatment in any and all of these, but more especially the most severe injuries, that old triad, "Life, function and form," should always be in mind. Do not sacrifice a foot that may be saved entire. Nature will do wonders in a few months in restoring to usefulness an apparently functionless foot, and a year or two of disability is preferable to a lifetime with an artificial limb.

If a foot cannot be saved entire then amputate in the middle third of the leg, at the ankle-joint, or by a Pirogoff amputation. Either of these must be determined by the character of the injury together with the circumstances and wishes of the patient or guardians. The middle third or ankle-joint amputation for the well-to-do unless he selects the Pirogoff. The Pirogoff for the man, or child especially, who cannot afford artificial appliances.

The Pirogoff is preferable to any other in a child either rich or poor, until more mature age, when secondary amputation may be done if desired.

I have not endeavored to offer anything new on injuries to the ankle, and my only excuse for this paper is that I wish to emphasize, with a very strong emphasis, regarding injuries of the ankle, more than of any other part of the body, the great importance of an exact knowledge of the manner of infliction of injury as a means to correct diagnosis and application of proper treatment. Without this knowledge severe injuries which are apparently minor are treated improperly, and a favorable prognosis given with later disappointing results, as a permanent lameness

from an unrecognized Potts' fracture, or an amputated foot that might have been saved.

Therefore, I have chosen to denominate history of the accident as a symptom of injury, and the first and most important symptom in differentiating injury from disease as well as aiding in a correct diagnosis of the character and extent of injury, and the adoption of proper surgical procedures.

DISCUSSION

Dr. J. R. Eastman, Indianapolis: I only heard the last part of the paper and I am not informed as to whether the essayist spoke of the especial applicability of the Lane plates in the case of fractures just above the ankle joint. I wish to emphasize the usefulness of the skiagram in determining just what degree of displacement we have in these fractures. After we have had the bones in a splint for three or four days it is easy and convenient to examine again without pain, to find out what sort of deformity we have, particularly of the fibula. We often find a great deal of displacement of the fibula; sometimes the lower fragment will be turned off almost at a right angle to its normal position. The lesion is superficial and it is easy to use the Lane plate.

Dr. A. L. Brankamp, Richmond: I have found in one case a compound fracture of both bones just above the ankle. I first reduced it or thought I had reduced it and put it up in what appeared to be excellent position, but to be safe, I made a skiagram of it, and found to my surprise that I had anything but excellent position of the fragments. Both bones were comminuted and the lower fragment of the tibia was turned inward, overriding the fibula, and the lower fragment of the fibula was turned at an angle. I am sure the man would have had very bad results if the limb had been allowed to remain in the position I had first placed it. Not being able to get these fragments into any sort of position, I incised on both sides and put a Lane plate on the tibia and one on the fibula. There was difficulty in obtaining a healing, because of the laceration of the tissues. The skin over the plate on the tibia did not heal very well, but still there was no infection, and in the course of time it grew together. The man has excellent results, with this exception: I might have drawn the foot a little bit farther inward. I have him wearing an arch support which might not have been necessary if the foot had been placed in a little better position.

Dr. E. H. Griswold (Closing): I have not anything additional to say, except to answer the doctor who asked about the Lane plate. I said nothing about the Lane plate, or any other particular method of treatment. As I said in the paper the principal object of the paper was to draw the attention of the doctors to one particular point which I consider more important than anything else: that when called to attend an injury of the ankle, to first inquire how the particular injury was received, or get the history of it. My experience with a large number of ankle-joint injuries, many of which come to me from other physicians, is that they have been treated largely from the emergency standpoint. I have been impressed with the fact that the history is the most important thing. Many times a definite Potts' fracture comes into your hands without any displacement or deformity whatever and without a skiagram; future examination will show the lesion a fracture. When you receive an injury of that nature, do not treat it as a simple sprain and do not give your patient a certain prognosis. If you do, you may disappoint him as well as yourself. There are many typical Potts' fractures that are treated as severe sprains, on account of the swelling that disguises the fracture. Whenever you find a patient who has received an injury by a blow struck against the ankle, you can make up your mind positively that that man, whether there is any displacement or not, has a rupture of the internal lateral ligament or a fracture. Bear in mind the application of the force that produces the injury. The many cases of bad results of Potts' fracture are simply due, in my opinion, to the fact of lack of consideration of the degree of the violence and the direction of the forces in the production of the injury. The treatment depends on each individual case. If it is a compound fracture, or a comminuted fracture, it must be treated on the indications that each individual case presents. The Lane plates, no doubt, are the best thing to use in immobilizing and fixing bones in position that cannot be maintained otherwise, but if the fragments can be maintained in accurate position by any external application, or fixation, I would not use any foreign substance under the skin in anybody for anything.

WHY REOPERATE IN ADENOID CASES?*

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In any field of surgery the results are not always a success. The technic of an operation may be correct, as viewed by surgeons, but the laity will measure the degree of success by the relief given the patient and the correction of the disease. It is the aim of all surgeons to find the causes of failures and to correct the same. The praises and thanks of patients for the relief of suffering are pleasant to the physician. They are the good cheer—the poetry in the doctor's life.

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while the criticisms and complaints of his patrons urge him to deeper investigation and better work.

The complaints of parents concerning unsuccessful results from adenoid operations may be classed under three heads: First, the child is no better than it was before the operation; second, the child was improved for a short time; third, the child obtained only partial relief. Who is to blame, the rhinologist, the family physician or the parents?

Adenoids are pathologic conditions of that portion of the Waldeyer ring which lies in the upper pharynx. The child, at birth, has glandular or tonsillar tissue in the upper and lower pharynx, but the diseased conditions are acquired and due to various causes. Experience and study soon teach one to recognize adenoid cases, even without examination. The adenoid cachexia, the sunken chest, the pinched face and general expression from mouth-breathing cannot be misleading.

The following symptoms may be caused by adenoid growths: conjunctivitis, blepharitis, epiphora, deafness, otorrhea, mastoid complications, decayed teeth, irregular teeth, narrowed and elongated maxilla, malformed jaws, upper lip too thick and short to cover the teeth, narrow pinched face, pigeon chested, idiotic facial expression, nasal polypi, nasal hypertrophies, nasal discharge both anterior and posterior, sore throat much of the time, mouth-breather, headache, anemic, digestive troubles, badly nourished, stupid in school work, stunted or lack of development, enuresis, divers reflex symptoms and very susceptible to taking colds.

Should not a pathologic condition that can cause such a chain of symptoms receive more recognition? Should the removal of the adenoids and tonsils be considered minor operations? Will the back-bone of the profession (the writer refers to those in general medicine) please answer?

The question arises, do the adenoids and tonsils cause all these symptoms, or is the patient's condition the result of mouth-breathing? Time compels the writer to ask the leaders in discussion to answer.

Adenoids are diseased glands, and it is the experience of all physicians who have carefully investigated the subject that no treatment other than surgery is worth considering. Rhinologists may differ slightly in their operative technic, but they are all agreed that every vestige of the adenoids should be removed. The operation that establishes normal nasal respiration is almost universally a success. On the other hand, the operation that will not stop the child's mouth-breathing will not yield good results. Yet the operative technic may not have been at fault. Perhaps the child's preliminary preparation or after-care was defective.

These adenoid cases should have such preparation as will tend to prevent hemorrhage as much as possible during the operation, because the patients are generally anemic and need all their blood. After the operation it should be the aim of the surgeon and parents to teach the child to keep its mouth closed and breath through the nose at all times. The rhinologist and family physician should impress this on the minds of the parents. After every operation for adenoids the writer informs the parents that the ultimate success of the operation depends on them, that it is their duty to teach the child to overcome the mouth-breathing habit, and if they fail in their efforts the operation will not relieve the symptoms. The parents will heed the advice when they once understand that the intelligence, facial expression, and the general health of the child depend on their efforts.

Even after the most thorough adenectomy there will be left small vestiges of gland tissue. If the patient continues to breathe through the mouth the small particles of adenoid tissue will hypertrophy and with repeated attacks of colds the nose will become occluded as formerly and the old symptoms will reappear. On the other hand, if the patient breathes wholly through the nose the air current passing through the nares will evaporate the secretions in the nose and epipharynx. If the mucosa is kept dry, or to the point of physiological moisture, there will be less liability to infection. There is a natural serum exudate which should be evaporated the same as inflammatory exudates. The nasal air-current should keep the nares and pharynx clear of all secretions. This is verified by noting the conditions of these patients in different atmospheres. In summer, or in any dry, warm atmosphere, adenoids are less troublesome to patients than in humid, cold and damp atmospheres.

It should be the duty of the rhinologist to reexamine the patient from six to eight weeks after the operation. He should be the judge whether the child's nasal breathing spaces are adequate to supply the needed oxygen to the lungs. If the prognosis should be unfavorable, it might be well to do additional surgery in the nose or mouth to give the case the desired relief.

If the rhinologist did the proper operation properly; if he has established ample space for nasal breathing, and has told the parents how to overcome the habit of mouth-breathing, he has done his whole duty. Failure of success in such patients must be charged to the carelessness of the parents. But if the operator has failed in

any of these three points he is to blame for the reappearance of the adenoids.

The writer does not refer to cases of malformation of the maxillary bones; of the extreme narrow nares, or of the short, thick-lipped cases. These are all neglected cases and should be treated in conjunction with a good dentist. The removal of the adenoids and tonsils early in life will prevent the pathologic conditions that make them dental cases. The advice to parents to postpone an operation, with the promise that children will outgrow adenoids, is dangerous and wrong. The child is not born a mouth-breather; nor does it have diseased adenoids and tonsils, or malformation of the maxillary bones. These are acquired and they can very materially be avoided. The protruding maxilla may be a family trait, but if the child from infancy is taught to keep the upper and lower jaw together, and to never breathe through the mouth, the malformed maxillary bone can almost entirely be avoided. The two jaws, when together, will support each other, and the strong muscles of the mouth and face act as splints to hold the maxillary bones in their proper position.

Tubercular, syphilitic and anemic cases often require reoperation unless they have had the proper after-treatment. It is surprising how these cases improve, even on the same tonic treatment that was ineffective before the removal of the tonsils and adenoids.

There are many patients who have diseased tonsils that need enucleation, and yet have no adenoids; but there are few who have adenoids that do not have diseased tonsils. This is contrary to much of our teaching, but it is true, nevertheless. An adenectomy and tonsillectomy should be done at the same time. The results are always good, which is not true when the adenoids only are removed. If the tonsils are allowed to remain, even if small and beneath the faucial pillars, the lacunar inflammation irritates and the tonsillar exudate will reinfect the adenoid region—thus necessitating a reoperation.

A surgical operation should not be considered unless it is thorough and complete. An incomplete adenoid operation generally necessitates a reoperation. Such cases may do well for a short time, or they may obtain partial relief for a short time, but the old symptoms will reappear. The upper pharynx is not the same in all people. There are typical and atypical cases. The same curet cannot be successfully used in all cases. Only with a digital examination can the anatomical arrangement of the epipharynx be ascertained. With the finger one can quickly and easily note the instruments necessary for the complete adenoid operation. Some will object to this method for fear of carrying infection to the wounded surface. The teaching of many of the Germans is that after beginning the operation the finger should not be passed into the epipharyngeal region. If the field of operation, the instruments, and the surgeon's hands are surgically clean, the danger of infection is very small.

All obstructions in the nares that interfere with proper breathing should be removed. In old adenoid cases it is common to find spurs, polypi and hypertrophies of the posterior lower turbinated bodies. If the patient is given a general anesthetic, preferably ether, the tonsils, adenoids and all the nasal obstructions can be removed at the same operation.

The writer has observed a class of cases where the tonsils are placed so high in the supratonsillar region that a portion of the tonsil extends to or above the lower edge of the velum palati. Even with small and apparently insignificant tonsils the outer edges of the velum palati will become adherent to the adjacent tissue. This also occurs in some cases where the adenoids are in the lower portion of the epipharynx. In cases of this kind the opening to the post nasal space becomes so narrowed that an ordinary curet can only be passed with difficulty. A reoperation may be avoided by a thorough enucleation of the tonsils, removal of the adenoids and the breaking up of the adhesions. If the tops of the tonsils only are snipped off, if the tonsillar capsule is allowed to remain, or if the adenectomy is incomplete, nasal breathing will not be established, and reoperation will be required.

An operation should not be undertaken without an anatomical knowledge of the parts operated. In operating on the tubercular glands of the neck the surgeon will dissect out the whole diseased gland; he will not divide the gland and leave a portion of it. The same principles of surgery will apply to glands in the pharynx—that is, to tonsillar and adenoid glands. It is being recognized more and more that diseased glandular tissues in the upper and lower pharynx not only interfere with proper respiration and oxygenation of the blood, but that they are points of infection which should be removed.

DISCUSSION

Dr. L. F. Page, Indianapolis: This certainly is a very important subject, and one that is receiving proper recognition in recent years.

One point of the paper which is probably the most important is the time of the operation. The

essayist called your attention to the fact that it should be done very early in life. The great majority of failures are due, in my estimation, to the delay in doing this work. The maxillary bones have become set and fixed before the age of 10 years in a large percentage of these cases. I think it is recognized by all men doing work in this field that the work should be done at the age of from 1 to 3 years. Not only the maxillary bones become fixed, but the turbinated bodies become enlarged and interfere with the drainage of the ethmoid cells, resulting in necrotic nasal catarrh. This is due to defective drainage. No operator is going to reestablish nasal breathing in these cases. So you cannot assure the parents that nasal breathing will be reestablished after the operation has been delayed so long. I am in the habit often of removing a portion of the turbinated body. The necessity is so obvious. You find the cells already have become infected and pour out pus, and there is no hope of curing these cases without securing proper drainage, so that I not only remove the tonsils and adenoids as thoroughly as possible, but I usually inspect the nasopharynx after removal, not only with my finger, but with a retractor. There are no two nasal passages alike, and an ordinary curet is not going to take off all the adenoid tissue unless you go over it with your finger. I have found that by lifting up the child's head and throwing it back over a little pillow you can see most of the adenoid tissue and take it off. It is a very important thing to be thoroughly familiar with the nasal and pharyngeal region, and the only way to become familiar with it is by constant examination prior to the operation to get the lay of the nasal and pharyngeal area. Very often you find these adenoids adhering over the openings of the Eustachian tubes. I tear them off with my finger.

DR. SPOHN (Closing): One point that was brought up in discussion I desire to speak about, and that is the removal of the lower turbinate bones, practiced so freely and often by some rhinologists. I have a high regard for the surgeon who saves the turbinate bodies and yet gives relief to his patients. If the turbinate bodies are removed the air cannot be prepared physiologically for the lungs. Any tyro can cut out the turbinate bones, but it requires skill and good judgment to give the patient ample nasal breathing space and yet not remove the parts of the nose that are essential to the patient's general good. Mouth-breathing causes a dry pharynx: the same is true of nasal breathing if the turbinate bodies are removed. In many cases the patient would do better to continue the mouth-breathing than to have the turbinate bodies removed. In my paper the reference to the turbinate bones should not be misleading. After an adenectomy I always pass my finger into the upper pharynx. If the turbinate bodies are hypertrophied, as is the case in some, I take a small modified Prince forceps through the nose and with my finger in the upper pharynx as a guide, I remove a small portion of the hypertrophy. But little is required to give ample space. I believe we should be conservative in all our nasal work; nothing should be removed unless it is absolutely necessary to do so in order to establish a physiologic condition of the nose.

DIAGNOSIS AND TREATMENT OF EMPYEMA*

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The diagnosis of pus in the pleural sac rests largely on an accurate history of the case and an accurate interpretation of the physical findings in the chest.

Leukocytosis is present and in the septic cases the leukocyte count will be high.

The history will sometimes show the condition to be primary and the result of an open wound or to an infection carried directly to the pleura through the blood-stream.

This condition is more frequently secondary to acute infectious disease processes in the chest, abdominal viscera or elsewhere. No doubt pneumonia, pleurisy and tuberculosis are most frequent causal factors.

The symptoms, in general, are those of a septic toxemia plus those of a pleuritic effusion and compressed lung.

In the beginning there may be symptoms of pleurisy or pneumonia, with pain in the chest, shortness of breath, fever, etc., of some abdominal disease as appendicitis, subphrenic abscess or of some general infectious malady. The fever will be irregular in type, with marked variations between morning and evening temperature, with chills, sweats, emaciation and prostration. Annoying hacking cough is apt to be present.

Inspection of bared chest will show enlarged veins and edematous condition of skin over affected area, at times, with diminished mobility of affected side and obliteration and bulging of intercostal spaces. Cardiac pulsation is sometimes present over area affected. Mensuration shows the affected side to be from one-half to 1½ inches larger than the normal side.

Tactile and vocal fremitus is absent. Dulness or flatness on percussion is noted. Vesicular breathing is absent or distant, as is also vocal resonance. Bronchial breathing is sometimes noted, especially in children.

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The diagnosis should always be verified by the use of the aspirating needle. Even this at times will disappoint. If the physical signs and history of the case are positive do not be content with one puncture with a certain type of needle. If you do so you will frequently be misled. Do not be afraid to use long needle or cannula of large caliber with properly constructed point, as both are important, especially if the pus is thick and localized and deeply placed between the lobes of the lung, e. g., 3½ inches deep between the middle and lower lobe of the right lung. The point of the cannula should be sharp, with beveled edge.

The aspirated fluid should be examined microscopically in order to determine the character of the infection. The pus produced by pneumococcus infection is generally creamy, yellowish or greenish in color; that produced by the streptococcus is thin, watery and flaky. Foul-smelling pus is usually due to putrefactive organisms. In tuberculous empyema the pus is thin and watery and contains masses of caseous material. The nature of the infection has great prognostic value. The plan of treatment to follow in the individual case is also indicated by the nature of the infection.

Perinephritic abscess, retrocecal, appendiceal abscess situated high, just beneath the diaphragm, and also abscess of liver are liable to cause error in diagnosis and are to be differentiated from empyema. Empyema is frequently confounded with and unresolved pneumonia and mistaken for such to the discredit of the diagnostician and peril of the patient.

Let me emphasize the importance of prophylactic measures in the treatment of empyema. Early evacuation of abscess cavities wherever they may occur is to be insisted on. The Fowler's position *early* in cases of appendiceal and pelvic abscess, and abdominal septic cases in general, is the best practice. Pleuritic effusions should always be recognized early. Their resorption should be encouraged through counter-irritation with blisters and free catharsis. If not shortly relieved, aspiration under most rigid asepsis should be practiced. A point just here on neglected cases of pleurisy. All cases of pleurisy should be kept under observation until all danger of effusion is past.

Once established, pus in the pleural sac should be evacuated. However, occasionally a case is evacuated per mouth and recovery ensues, or the abscess may point and evacuate itself on the surface and recovery occur. These are exceptional and extra hazardous terminations and medical treatment has no field here.

"Free incision when done early is very successful; the removal of a rib in acute cases is never necessary and a fatal issue at any age is rather a result of the neglect to recognize the nature of the case than of the operation itself," says Lewis Marshall in *The Lancet*. With this view the writer cannot wholly concur. Should we depend on aspiration, thoracotomy alone, or with resection of a rib or ribs? And should the abscess cavities be irrigated or not irrigated?

The operation of choice both in acute cases and neglected chronic cases is thoracotomy with removal of one or more ribs as may be required for the establishment of free and thorough drainage by means of large drainage tubes, or by the use of Wilson's double-flanged empyema tubes, or by Bryant's aspiration apparatus as the individual case may demand. As soon as the drainage apparatus is secured in place a large gauze and cotton dressing should be applied and snugly held by a chest binder. Irrigation should never be practiced.

As soon as convalescence is established, if proper lung expansion does not occur it may be encouraged by the use of Wolff's bottles. In chronic old cases, with very much thickened pleura, lung decortication may be resorted to after the method of De Lorme and Fowler. Lund of Boston recently reviewed in *The Journal of the American Medical Association* a series of personal cases operated by the method of lung decortication. In cases where the lungs will not expand the classic operation of Estlander or Schede are sometimes resorted to with satisfactory results.

DISCUSSION

Dr. J. H. Clark, Connersville: A heavy responsibility rests on the practitioner in all cases of pneumonia. In case there is not a prompt recovery he should always be on the lookout for cases of empyema. I am a general practitioner myself, and I believe that in the early recognition of this condition, as the doctor said in his paper, lie the best results of treatment. The diagnosis is not always easy. In a typical case, in which the lungs and heart are crowded over to the other side of the chest from where they belong, it is easy to make a diagnosis, which is too late, for most of the bad results are caused by the case getting too far along. If the case is operated early the lung will probably expand and there will be no need of removing a rib or any section of it. I saw a case of insanity so obscure the signs of an empyema that it was impossible to diagnose the condition until after death, and at the autopsy the empyema was found to be localized and to extend up and down at the

rear parallel to the back bone. It was about 6 inches long and 2 inches wide and contained about 2 or 3 ounces of pus. In any case if the disease is localized, it will be very difficult to differentiate between a condition of empyema and an unresolved pneumonia. I saw one case of an abscess that was only about 3 inches in circumference, from which the patient made no progress. About the tenth day of pneumonia he seemed to be doing fine; on the third week he had a cough and felt bad; after examining him several times I aspirated and found there was a small circular abscess there. This man was 29 years old. Most of the books say to remove a rib from a man of that age. He made a very prompt and satisfactory recovery on drainage. The large majority of cases of empyema will be found following pneumonia or pleurisy, or, occasionally you will find one that follows a wound. Again I want to emphasize the responsibility that rests on the general practitioner to recognize these cases early. If he will operate them, or have them operated, they will recover quickly and with no deformity of chest. I presume that every practitioner here has seen cases in which the whole side of the chest was distorted and the body deformed from neglected empyema.

Dr. M. R. Combs, Terre Haute: Perhaps one reason that these cases are not diagnosed as early as a great many others is the fact that they are nearly always secondary troubles. They come after pneumonias or other infectious diseases when our vigilance is somewhat relaxed, and we have neglected the careful physical examination we would have thought necessary early in the disease. This emphasizes the fact that it never pays to relax your vigilance as long as you have a case in charge, as was stated in the medical section about the duty of the physician to go over the abdomen of the typhoid fever patient morning and evening. So, if we go over the chests of our pneumonia patients, even after they are fairly convalescent, we may find signs that may make us suspect empyema. The only proof we have that there is pus in the pleura is by the use of the aspirating needle. When we see the pus we know we have it; before we see it we know we have something, but we do not know what it is. However, if we do not find anything with our needle, it is not absolute proof that it is not there. A man who aspirates a pus cavity in the pleura, it seems to me, is doing a dangerous thing. In children perhaps quite young it may be sufficient to make an incision between the ribs. In grown people I believe the ribs should be resected with no irrigation. One thing I would say, not from my practice but from my own experience, and that is don't put 4 or 5 yards of gauze in the pleural cavity of a patient with empyema. About three or four years ago I was unfortunate enough to have an empyema following pneumonia, and the most vivid thing I remember was taking that gauze out. It was a torture. It taught me never to pack these cases with gauze. It is not necessary. If you fill the field with gauze you prevent the natural expansion of the lung, and you get a cavity that will not close as quickly as it should. Take a rib or several ribs out so that you will get your hole big enough and you will not need to fill the cavity full of gauze.

Dr. J. R. Eastman, Indianapolis: I wish to emphasize what has been said about the difficulty of diagnosis as between subphrenic abscesses and appendicitis empyema. Years ago Dr. Richardson of Boston called attention to the annoying difficulty of determining whether a given pus puddle is above or below the diaphragm, and while we may have diagnostic signs that we regard as reliable, still, even as used by skilful diagnosticians these signs often fail us, particularly with children. It is often extremely difficult to tell whether we have to deal with thoracic empyema, rupture of the stomach or gall-bladder, appendicitis or what not, when we have symptoms of pus in contact with the diaphragm. I have gone to operate in the case of a little girl with supposed appendicitis who had been under the observation of a competent man for several days. The child coughed, the mother handed her a napkin, and the characteristic prune juice sputum of pneumonia appeared on the napkin.

I recall a case of a boy whose physician had diagnosed appendicitis, and the boy had pneumonia.

Two weeks ago I operated on a case of appendicitis in a young man who had been brought in a few hours before from the yard where he had been sleeping out doors for pulmonary tuberculosis. He had been having chronic appendicitis. The appendix had burst and general peritonitis had developed. He had been in the care of a

man who is one of the best diagnosticians in Indiana, hence we cannot be too careful in cases in which there is doubt as to the location of the pus, whether supra- or subdiaphragmatic.

Dr. L. F. Schmauss, Alexandria: In the treatment of empyema there is one thing not brought out which I think is a very promising measure, and that is the injection of bismuth paste. That has been used in a large number of cases especially of old sinus cases, with great success. As to the use of the iodoform gauze of which Dr. Combs spoke, I would say that you ought not to put a tube in the chest cavity and leave it in. A young man was brought to the Cook County Hospital who had a tube of at least one-half or three-fourths of an inch in diameter in his chest and it had been there for eight years.

Now, in regard to the difficulty in diagnosis as mentioned by Dr. Eastman, I would like to cite a case that came into my hands while intern at Cook County Hospital, Chicago. There was a man that had been sick for years and had been in a large number of hospitals. He came from the east, and every now and then he would get sick, and his condition would be diagnosed as either pleurisy or pneumonia, and he was sent to my service as a case of pleurisy. In examining carefully I found no typical symptoms of pleurisy but a thickening of the right costal arch and below this an area of tenderness about the size of a 50-cent piece. Suspecting a diaphragmatic empyema I procured an aspirator syringe with a long needle and thrusting the needle in an upward direction I got a syringe full of pus. I then sent him over to the surgical side where on operation there was found a large amount of pus below the diaphragm, originating from the liver. There is nothing that beats the aspirating syringe to make a positive diagnosis with fluids in the chest cavity. When used with proper precautions it cannot do harm. A large needle should be used.

Dr. Harry Elliott, Brazil (closing): I appreciate the discussion of this paper. I wish to emphasize one point in closing the discussion. If the history and the clinical picture of the case point to an empyema, and the physical signs of pus in the chest are positive; and the first introduction of the aspirating needle does not reveal the pus, do not hesitate to continue to introduce the needle until the pus is found. If the pus cavity is placed deep between the lobes and the pus is thick and viscid, a round-pointed aspirating needle will not allow the pus to be withdrawn through it, while a needle with a bevel point will give most gratifying results.

AN IMPROVED METHOD OF TREATING FRACTURES OF THE HUMERUS *

H. R. Allen, M.D.
INDIANAPOLIS

We all know of the great amount of experimental surgery that has been done in treating fractures of the humerus. The open surgical work about the elbow has been most commendable, but the surgeons whose enthusiasm led them into open surgical operations on the shaft of the humerus have returned to splints and other dressings.

These splints and other dressings are much the same as they were several hundred years ago, and the mechanical principles employed are identically the same. The only changes that have been made are substitutions of one material for another.

The various items in the list of dressings handed down to us are amazingly few. There are only three or four items in the list.

The first is the splint, made of wood or cardboard or felt or some other material. Now it does not matter what the material is, the fact remains that the splint is not self-supporting but must depend on some sort of bandage to hold it in place. The bandage, therefore, is the second item in the ancient list that is handed down to us. To whatever mechanical analysis the bandage is subjected, no one can deny that its ability to hold a splint in place depends on its ability to constrict. In other words, if a splint is exerting an efficient correcting pressure the bandage that holds the splint in place is exerting the same amount of continuous constricting pressure. The two pressures vary directly. A plaster dressing is merely a combination of splint and bandage in one piece. If it is applied snugly and the arm swells inside of it then it becomes a violent con-

* Read before the Indiana State Medical Association at Indianapolis, Sept. 28, 1911.

strictor. On the other hand, if it is applied so loosely that no amount of swelling can make a constrictor out of it, it is then serving no corrective purpose at all.

The third item consists of a trough in which or on which a damaged arm may be placed. This device may offer protection against outside violence but to it no other function can be ascribed.

The last item involves the force of gravity. The object is to secure a constant distance between broken bone fragments, or a constant length of arm by employing a constant force to one end and a fixed force to the opposite end.

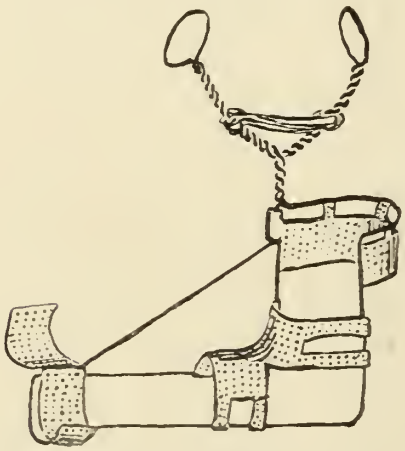

Fig. 1.—The first appliance is made of one piece of wire, several pieces of ordinary Z O adhesive plaster and one piece of gauze and cotton padding. This is cheaper than plaster-of-Paris dressing and can be made in less time.

It does not hide from view the part requiring inspection and does not depend upon constriction as a means of holding broken bones in apposition, but depends upon absolutely different mechanical principles than those in the ordinary plaster or splint dressings. Furthermore, we believe it is efficient and will take adequate care of cases impossible to handle by any conventional methods. It has the commendable quality of fitting without the possibility of constricting, whether the arm is swollen or not swollen, and holds the broken bone fragments at constant length.

Where surgical text-books get their authority for assigning unnatural and impossible duties to the unalterable laws of gravity, I confess I do not know. The mistaken ideas so prevalent among surgical authors pervade every known language in spite of the coexisting text-books on physics which inform us that it is impossible to keep two movable objects at constant distance if we apply a fixed force to one and a constant force to the other.

It is not within our province to question the qualities of natural forces. That duty belongs to the physicist. Our functions as surgeons are limited merely to the selection and appropriation of natural laws that are appropriate to our needs. There are plenty to choose from and fortunately

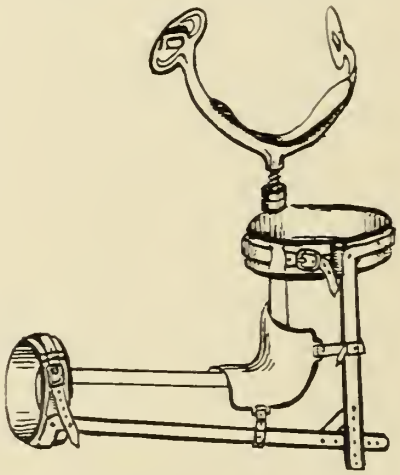

Fig. 2.—The padded metallic brace has many points of advantage over the wire appliance. It is more comfortable and its screw adjustment makes it more accurate. The straps at the wrist and mid-arm are always loose and free, and should always be kept loose since they are not actually essential. It fits either right or left side.

The axillary pads are V-shaped, leaving a free space for all axillary vessels and nerves. The pad has its bearing against the antero-posterior muscle boundaries of the axillary space. This bearing and this shape prevent the possibility of crutch paralysis and swelling due to blood-vessel compression.

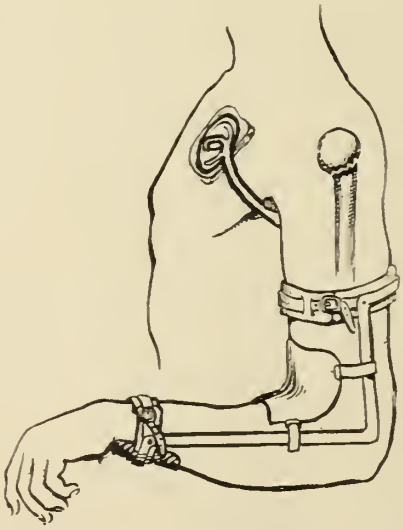

Fig. 3.—The prolongation of the crutch arms terminate in round metallic pads, one of which rests over the pectoral muscles and the other over the scapula.

there are a few that are both efficient and appropriate.

If it be a surgical necessity to pull overlapping bones down to their normal places and then

hold them there until ankylosis secures them in straight alignment. it is encumbent on us to choose some reliable mechanical principle that is known to have these two distinct functions. If the upper and lower portion of the arm are secured by proper pads and a screw traction or a screw separator intervenes, all one has to do is to turn the screw and the bones that are all awry within the muscle tube of the arm begin to lose their angularity and pull down into line. Now the very instant that the screw traction ceases, fixation forces are present and will hold the bones in the position to which they have been gradually and painlessly drawn.

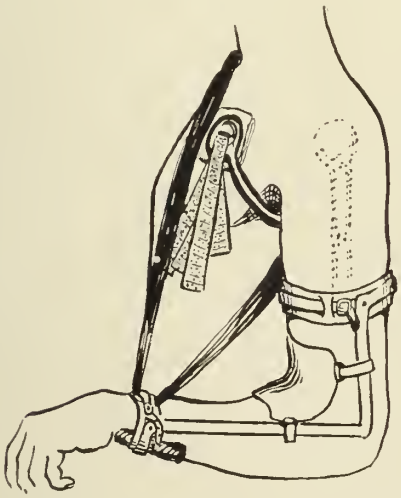

Fig. 4.—Upon these pads are metallic cleats for the attachment of adhesive plaster. Some cases of fracture of the humerus are complicated by having serious skin lesions in the axillary space, which would prohibit the use of the crutch. In such a case a superior fixation area is readily supplied by adhesive plaster attached to the chest and back, leaving the axillary space clear and free for treatment.

When the forearm is flexed upon the arm more acute than a right angle it forms a re-entrant angle into which is placed the downward traction metallic pad. This pad is the counterpart of the upward axillary traction pad. By tightening the adjustment screw or by lowering the re-entrant angular pad the fragments of broken humerus are pulled to their proper level or even below their proper normal level. The hand is at all times free to act.

In this paper no attempt is made to deride the natural laws and mechanical principles found in conventional treatment. The only point I strive for is to convince you that the selection of natural laws and mechanical principles is now and always has been defective for our purposes. Appropriate methods await those of you who desire to use them. That you have been most successful under the handicap of ill-chosen conventionalities I do not deny; and I promise you that with better and more appropriate ways and means your results will amply repay you for the time I have consumed. One surprising feature of this treatment is that of subjecting pain to mechanical control. This can be instantly demonstrated by loosening the brace.

In addition to eliminating the element of pain you will be able to cure cases that are impossible under conventional methods. It will enable you to save arms that would otherwise be lost.

It affords me the greatest pleasure to turn over to you a method and a brace invented by a boy more than a quarter of a century ago.

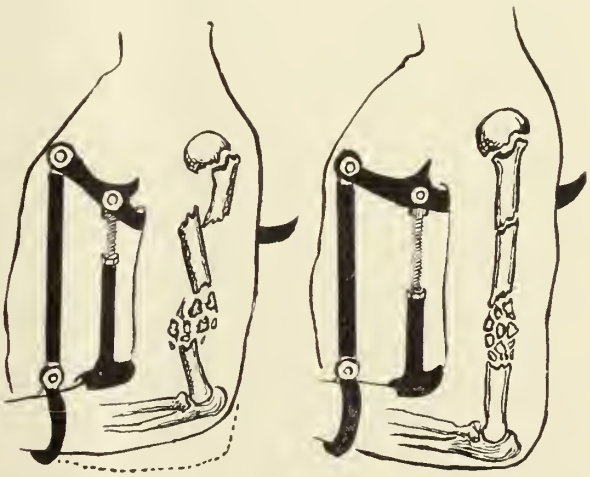

Figure 5. Figure 6.

Figs. 5 and 6.—The three points of essential leverage and screw fixation are presented below. No such apparatus has ever been constructed. The pictures merely illustrate in a simple way the mechanical principles involved.

The possibilities of handling badly shattered bones are self-evident.

The heavy black-lined apparatus operated by a screw gradually draws the bone fragments into normal, straight elongation, permitting the fragments to be remodeled or naturally adjusted into their proper places within the muscle tube that contains them.

The arm may be drawn painlessly past its normal length and held there, and thus shortening and angular deformity may be avoided.

DISCUSSION

Dr. G. F. Holland, Bloomington: Ladies and Gentlemen, I really feel that one who is asked to discuss the paper of which I received a copy is called on to become eulogistic of the mechanical merits and gray matter of Dr. Allen.

In one instance previously I had a bad hip in which we utilized similar traction. I presume some of you have seen that splint.

Of course there could be varying cases of fracture of the humerus. A direct cross fracture of the humerus would not require as close and watchful care as to future extension as would the kind of a case that the doctor refers to in his paper, where the bone fragments prod the sensitive muscle tissue.

There could be utilized in that case the other types of putting up the arm in the failure to have at hand one of these types of braces. I have not had a chance of trying this type of extension for fractures of the humerus.

Of course the complicated fractures which the paper did not take up could be treated just as well by this type of brace and better by far than by the other type, excepting with the recurrent dislocated upper extremity accompanied by fracture in very aged people. This could be put up better by the Scudder method in fractures of the upper arm or the shoulder cap.

The types of injuries particularly referred to, those accompanied by scalds and burns, such as occur in railroad and factory surgery, occur in younger persons in most instances, because they are the active ones employed in such service, and would be unquestionably better treated by this method. It is not any more cumbersome to use than is the other, but no one could be justified in speaking of its merits until after trial. It has the merit of the sensible use of the forces of pushing and pulling combined. We are really pushing on the bones of the forearm and pulling with the leverage, as illustrated.

DR. AUGUST KNOEFEL, Linton: I would like to know how the brace acts in a fracture of the anatomical neck where the axilla is lacerated.

DR. B. P. WEAVER, Fort Wayne: It seems to me Dr. Knoefel's question is of extreme importance. Take fractures that are high up, as Scudder well points out, the rotation that is due to the strong pectoral group will bring about a troublesome condition. This splint may, of course, overcome that. If it does perform that function, it seems to me that is one of the most important things to emphasize in the high fractures of the humerus. The point has just been well taken by Dr. Cole while showing his skiagrams, that fractures of the anatomical neck have been often overlooked, and Scudder also makes mention of that fact. Until we had the skiagram to help us, we did not recognize these fractures through the anatomical neck. Possibly this splint might answer the purpose better than the old methods.

DR. J. H. FORD, Indianapolis: This apparatus seems to be comprehensive and equal to the emergency. The only thing I would call attention to is the possibility of doing injury to the axillary plexus by upward pressure through its path. If the muscles of the arm are largely developed you may have quite a pressure there. You all know the danger of injury to the axillary plexus. You can produces paralysis of the arm by undue pressure there. By hanging over the edge of an operating table sometimes the axillary plexus may become injured and you have paralysis. The only danger I can see that this apparatus might develop is possibly the danger of injuring this plexus. The only fulcrum is the axilla. While I am sure Dr. Allen is equal to the emergeney to overcome this, there is a possibility of this apparatus doing damage of this kind.

Another thing, what are you going to do when you have not got it? The ordinary practitioner in case of a fracture of the humerus is ordinarily remote from his point of apparatus, and this is rather expensive apparatus to have in your office all the time, and then the question is, what are you going to do?

I have set fractures of the humerus for the last forty years, and I don't remember a case where there was any serious difficulty about it, except compound fractures. You sometimes have a division of the shaft of the bone.

Dr. Holland spoke about a condition that often obtains in the service with which I am connected, of burns and scalds. I saw a young man this morning with fracture of the humerus. He was scalded from his wrist to his elbow and his neck, the skin was more or less abraded and the axilla was more or less injured. You could not have put this apparatus in the axilla, because of his condition.

I can see the advantage of this apparatus in a large number of cases. I think it was very kind of Dr. Allen to bring it before this Association.

DR. C. D. MARSHALL, Kokomo: The only function that a plaster cast can perform on a limb is that of a ferule, and any one that ever attempts to hold two pieces of material together by means of a ferule will appreciate the difficulty

of doing that. It seems to me that the method of retaining fractures by plaster casts utilizes the mechanical principle that is applied anywhere else in mechanics. It is one of the most difficult things on earth to splice anything by means of a ferule unless you use unusual force in doing so. This is merely a mechanical process, as would be carried out in any other line of business. It is mechanically applied on sound mechanical principles.

Of course it is true, as suggested, that this apparatus is not always at hand when you want to use it. But dealing with fractures is really a mechanical proposition anyhow, and why a man should get along better with a makeshift than with something that is based on mechanical principles is a mystery to me. I think a man ought to be able to make this splint if he is going to handle his fracture with any degree of success. Of course the picture should be in the mind's eye to begin with. You cannot be successful without that.

Dr. H. R. Allen, Indianapolis (closing): I first want to thank you for the liberal way you have accepted a new proposition. I am not here as a missionary trying to reform people. I simply submitted the proposition to you.

In regard to the point that Dr. Holland referred to, as to transverse fractures staying in place, they do. The thing that holds them in place is that the muscles are not stripped away from them. Pull the muscles down and the chances are the bones will catch and hold together. In case you have any direct violence, pushing the shaft of the bone underneath the head of the bone you would then put a pad in at this point to hold the bone out in position. On the contrary, I had a case from Fort Wayne the other day that was pushed out the other way. There it was necessary to put the pressure the other way. You can put your pressures forward or backward with the same splint.

Two gentlemen spoke of fractures at the surgical or anatomical necks. I have brought down some *x*-ray pictures. One is both surgical and anatomical. They respond beautifully. I will be glad to show you these cases, as I have photographs both before and after reduction and during treatment. One of the cases is quite an elderly man. They are free from pain. Pull down, get your separation and then rotate your head back the way you want it to go and let up on your screw and it takes hold.

Dr. Ford on axillary pressure first. I tried to make it clear that that U-shaped arrangement leaves an absolutely open space so that you cannot have pressure on your axillary blood-vessels and nerves. In addition to that if your patient be burned, as is this man at the Big Four shops, he was drawn into a lathe and was badly lacerated in the axilla, that is what the adhesive plasters are for here on the chest. You pull that down 3 inches if you want it that far, from the axilla, and put your adhesive plasters on and fasten them. Then you have nothing to do with the axilla. You don't know whether it is there or not. You have no pressure against it. You transfer from axillary pressure to pectoral and scapular pressure.

Another thing Dr. Ford brought out, a very good point. I believe it was Dr. Marshall mentioned it also. Suppose you have a fracture — in the case of the old gentleman I spoke of, do you suppose I went to work to do something to that immediately? Not for four days. I took an *x*-ray picture. When I was satisfied I began treatment. I do not intend any reflection on Dr. Ford by any remarks I make on this hurry-up call business, but I mean to apply it to all of us. Gentlemen, when we have a fractured bone, we go at it like we were going to a fire and we use the same quality of judgment. When we have a case of fractured bone, it will be fractured in ten days just as much as it is now. There is no hurry on a broken bone. Do not hurry, take your time. Don't let the family tell you you have got to do something. Get your *x*-ray pictures and know what you are to do and then do it.

Dr. Marshall spoke of the plaster cast treatment being a ferule treatment. He complimented me. It is an upholstered ferule. There is a lot of loose padded stuff inside of the ferule.

There was another point I liked in Dr. Marshall's talk, and that is that a man who cannot make the apparatus ought not to fool with fractures. It is mechanical work.

The Edwards Instrument Company, of Indianapolis, moved into larger quarters on December 15. Their new address is 850-852-854 Massachusetts Avenue.

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EDITORIALS

SOME FALLACIES IN THE CONCEPTION OF SEROFIBRINOUS PLEURITIS

Some very interesting data concerning the extent and location of serofibrinous collections of fluid in the pleural cavity, as determined by the *x*-ray, were presented by Engelbach and Carman at the meeting of Roentgenologists of the Middle West at Chicago, April 8, 1911.[1] And particularly interesting are these studies because of the development of many new facts totally at variance with accepted laws and theories concerning the physical properties of pleural fluids, particularly the inflammatory effusions, both of the costal and visceral pleuræ. Because of the fact that collections of fluid in the pleural sac throw a dense *x*-ray shadow, it is possible to get very definite data concerning the physical conditions incident to the existence of such effusions. And it is by the use of this method that the authors show some very striking contradictions to our long-accepted conceptions of these conditions, based on physical examination.

The usual text-book picture of a parietal pleurisy with effusion is that of a mobile collection of fluid in the inferior portion of the upright chest, tending to dislocate the contiguous organs. Mobile dulness in the lower part of the chest (patient in the upright position) not transmitting voice, breath or whispered sounds, depending in extent on the amount of effusion, with Ellis' S-shaped line along the lateral boundary of the chest, and Skoda's resonance just above the border of dulness, the fluid gravitating to the median or lateral side of the pleural cavity with change of position, form a classic picture based on the supposition that all effusive pleurisies are in the lower portion of the upright chest and that mobility is an essential feature of the effusion.

Coupled with the dependent conception of the fluid there are the unexplained phenomena of the presence of tympany over Traube's space with a left-sided pleurisy, the physical findings of fluid posteriorly and not anteriorly or vice versa, the controversy concerning Ellis' S-shaped line, the lack of displacement of organs with apparently large effusions, the not infrequent absence of Grocco's sign in pleurisy with effusion and the variation in the degree of dulness in apparently similar collections. These and other contradictory findings induced the authors to make a combined clinical and skiagraphic investigation of fifty cases of serofibrinous pleurisy in which the physical findings were compared with fluoroscopic and skiagraphic examinations, and, with the exception of eight cases, they were controlled by aspiration of the chest and cytodiagnosis of the fluid. Many surprises resulted, particularly as regards the location and mobility of the fluid and the change of position of contiguous organs produced by the effusion.

As to location, their studies proved conclusively that in only 25 per cent. of the cases did the fluid collect in the lower portion of the upright chest, and in the remaining 75 per cent. the location in the pleural cavity was extremely variable. In almost 25 per cent. of the cases, the fluid was in a vertical column in the lateral portion of the chest, compressing the whole lung toward the mediastinum, while 34 per cent. showed the fluid in a vertical position, enveloping the lateral aspect of the lung and extending nearer the median line posteriorly than anteriorly. About 16 per cent. revealed the fluid occupying a more or less oblique position across the chest, from above downward and inward in 6 per cent., or in the posterior portion of the chest in 9 per cent., depending on the size of the effusion. The smallest exudate occupied the costo-phrenic angle of the pleura, with the concavity inward and upward, hence proving that the fluid assumed the position more constantly adopted by the patient during the acute inflammatory stage, i. e., in the posterior portion of the pleural cavity with the patient in the dorsal position, in the lateral portion when patient is in a lateral position, and in the lower portion of the chest with the patient in the upright position.

Again contrary to the usual teaching, these exudates were found to be but slightly, if at all, mobile, many of those occupying the lower half of the upright chest remaining in the same position when the patient was put in the dorsal or lateral position for *x*-ray study. In all cases of vertical position of the fluid in the pleural cavity in the upright position the shadow remained absolutely unchanged with altered position. The same was true for oblique positions of the fluid. Such phenomena can only be accounted for by the formation of encapsulating adhesions around the fluid, which occurrence aids in differentiating the kind of fluid present in a given case. Of

1. Am. Jour. Med. Sc., December, 1911.

course, on partial aspiration of a pleuritic exudate the remaining portion becomes hydrostatic within its limiting capsule, as is so beautifully illustrated in one of the author's skiagrams.

These observations explain why many effusions of some considerable size do not produce any appreciable displacement of organs, unless the effusion happens to be in the lower part of the chest, and when displacement does occur it is more apt to be at the center of the mediastinum than at its upper or lower portion. The displacement of the heart is practically that of a heart displaced in its normal axis.

The diagnosis of interlobular pleurisy, diaphragmatic and subdiaphragmatic collections of fluid, has been greatly simplified and facilitated by *x*-ray examination.

The conclusions of these authors are interesting indeed:

"1. The location of the fluid in serofibrinous pleurisy is variable. In a great majority of the cases it is more or less in the vertical position in the upright chest. The location is probably dependent on the most constant position assumed by the patient during the acute stage of the disease. Adhesions forming at this time encapsulate the effusion, fixing it permanently in this portion of the chest.

"2. The encapsulation of serofibrinous effusion in different positions of the pleura will explain the discrepancy of the physical findings with relation to the displacement of organs. Grocco's sign, obliteration of Traube's space, mobility with change of position of the chest, and other confusing physical findings."

VACCINE THERAPY FOR TYPHOID CARRIERS

What will probably eventuate in one of the greatest achievements of preventive medicine has been the very definite progress made in the recognition of chronic typhoid carriers and the rôle they play in the etiology of certain epidemics of typhoid fever. For some time now it has been well known that typhoid bacilli could be recovered from the feces or the urine for a very prolonged time in some cases and the gall-bladder was not infrequently found guilty of being the chronic feeder to feces excreting the bacilli. In perhaps an equally large number of cases the urinary bladder was the offending organ and for quite some time now it has been considered good routine to administer hexamethylenamin for a number of weeks to overcome the dangers of typhoidal bacilluria in a patient discharged from treatment because recovered from his disease proper, and yet capable of spreading his infection from his home. That a chronic typhoidal infection of the gall-bladder may, by affording a nucleus of bacteria, become the starting point of gall-stones, has likewise become well known.

Brem and Watson[1] remark on the paucity of literature concerning the treatment of typhoid bacillus carriers although much has been published otherwise concerning them. This they ascribe to the facts that treatment has been unsatisfactory and the infection eradicated in but few cases.

Dehler cured two carriers by cholecystostomy, and Grimme one by cholecystectomy, but Foster could not eradicate the paratyphoid bacilli from the stools of a carrier whose gall-bladder he drained. "Typhoid Mary," the famous intestinal carrier, failed to yield to doses of 100 to 150 grains of hexamethylenamin and intestinal antiseptics at the hands of Park. Lentz and Hammond each likewise failed. Albert reports the disappearance of the bacilluria under hexamethylenamin and Niepraschk under triborate of hexamethylentetramin.

Litterer successfully treated by vaccination two discharging typhoid bone lesions. Irwin and Houston cured a bacilluria by vaccination after failure with hexamethylenamin. Meader succeeded by vaccination in eradicating the bacilli from the feces of a patient who had had typhoid thirty years previously and had been exposed to infection five years previously. Before vaccination, hexamethylenamin had been given up to 75 grains daily, but had to be discontinued on account of painful micturition. In the hopes that it would overgrow the typhoid organisms an attempt was made to plant the *B. coli* in the large bowel by injecting a pint of bouillon culture per rectum. This was without result as was treatment with lactic acid bacilli tablets. Autogenous vaccines were then given at intervals of from one to two weeks. Six vaccinations were given, the doses increasing from 25 to 1,000 million, after which negative stool cultures were obtained on three separate examinations. The bactericidal power of the blood rose rapidly until 400 million bacilli were injected when it fell rapidly reaching its original level after 1,000 million bacilli were injected. Furthermore, during the period of declining bactericidal power the agglutinating power became evident in dilutions of from 1 to 500 in one hour. Brem and Watson believe that these serum phenomena were coincidences and that the disappearance of the bacilli

1. Arch. Int. Med., November, 1911.

was due to the healing of a chronic lesion under the influence of vaccination.

Of six typhoid carriers and one paratyphoid A carrier treated by Cummins, Fawcus and Kennedy, two were urinary carriers and five intestinal. They used various methods of treatment including implantation of *B. bulgaricus,* intestinal and urinary antiseptics including hexamethylenamin alone and together with another diuretic, sodium benzoate and acid phosphate of soda, *x*-ray exposure of the gall-bladder and kidneys, and, finally, three patients were vaccinated with stock and autogenous vaccines. One carrier recovered under large doses of *B. bulgaricus,* but others failed to do so. *X*-rays seemed to inhibit the excretion of bacilli temporarily in another case. Antiseptics reduced the number of bacilli, but they rapidly rose on discontinuance of medication. Vaccination failed in three cases to eradicate the infection, one an intestinal carrier and two urinary carriers. Although these authors are sure of the recovery of only one patient, and that an intestinal carrier treated with lactic acid bacilli, yet they feel that a combination of vaccination with hexamethylenamin in urinary carriers, and of vaccination with *x*-rays in gall-bladder intestinal carriers may prove to be effectual.

Stone reported one recovery in a urinary carrier treated by vaccination with the autogenous type, six dozes ranging from 100 to 400 million being required to render the stools negative.

Summarizing: Three chronic intestinal typhoid carriers have recovered following gall-bladder operations. One urinary carrier recovered during the administration of triborate of hexamethylentetramin. One intestinal carrier recovered after implantation of lactic acid bacilli in the alimentary tract and one apparently recovered after repeated *x*-ray exposures of the gall-bladder. One intestinal carrier, two urinary carriers, and two carriers discharging bacilli from bone lesions have recovered during autogenous vaccination. To these the authors, Brem and Watson, add one urinary carrier likewise recovering during autogenous vaccination. Altogether then, of twelve recoveries of typhoid carriers, six have occurred during treatment with autogenous vaccines.

The authors' patient was a white, female child, aged 4½ years, whose father and mother were infected shortly after her attack of typhoid fever. Typhoid bacilli in pure culture were isolated from the child's urine. Hexamethylenamin had been administered during two weeks of her convalescence. Practically the only treatment used was autogenous vaccination, nine doses being given, increasing from 25 to 1,500 million bacilli per dose. The organisms in the urine decreased gradually and disappeared entirely after the ninth vaccination. Eleven successive urine cultures were positive for *B. typhosus* and then five successive cultures were negative, the total duration of the bacilluria from the time of normal temperature being about six months.

From this review it would seem that in vaccine therapy lies the greatest promise in this very important field of preventive medicine and that the occasion for the more or less persistent excretion of typhoid bacilli after recovery from the disease proper is the presence of some chronic, unhealed lesion.

HONEST MEDICINES

Two powerful agents are at work to guarantee honest medicines. The American Medical Association, through its Council on Pharmacy and Chemistry and its Chemical Laboratory, concerns itself in the main with those medicines which are used by physicians. On the other hand, the United States Government, through its Food and Drugs Act, concerns itself in the main with the remedies that are used by the public. Both of these agencies have done much to convince those who make their livelihood by the manufacture and sale of medicines that honesty, in the end, is the most profitable policy.

Below we show one of the results of prosecution under the Food and Drugs Act.

Those who are interested in the prosecutions made under the Food and Drugs Act may obtain a copy of any of the judgments or a list of all by writing to the Bureau of Chemistry, Department of Agriculture.

CONVICTION UNDER THE PURE FOOD AND DRUGS ACT

(From the Journal A. M. A., Oct. 28, 1911, p. 1472)

HUMBUG OIL

Humbug Oil was the expressive and truthful title given to a nostrum shipped by Mrs. J. F. Marshall Smith of Minnesota to Utah. If no other claim than that denoted by its name had been made, Mrs. Smith could doubtless have continued to sell her nostrum unmolested. It was said, however, to "relieve diphtheria of the most malignant type." The government chemists reported that Humbug Oil consisted essentially of 20 per cent. oil of turpentine, 20 per cent. linseed oil and the balance a watery-alcoholic solution of ammonia water, ammonium salts and a volatile alkaloid, probably coniin. While the stuff was undoubtedly a humbug, it would not "relieve diphtheria of the most malignant type" and was therefore declared misbranded. The defendant was fined $5 after

entering a plea of guilty.—[*Notice of Judgment, No. 988.*]

LABORDINE COUDREY

For a short time, about two years ago, the pharmaceutical press was much interested in a bill introduced in the house by a representative from Missouri, named Coudrey, which proposed that the national government should publish the Pharmacopeia. The arguments for and against a government-owned pharmacopeia were coming thick and fast, accompanied by speculations over the intent of the bill which none could understand, when the medical press informed the pharmacists that the promoter of the bill was also the promoter of Labordine, a vicious acetanilid mixture sold under a misleading formula which had been exposed by the Council on Pharmacy and Chemistry. When this information became available, interest in the bill quickly subsided, for it was appreciated that anything originating with the promoter of Labordine might safely be condemned without serious consideration.

Now, we learn that the man from Missouri, who is no longer in Congress, has been arrested on a charge of using the mails to defraud. The alleged misuse of the mails is in connection with the business of the Continental Life Insurance Company and the International Fire Assurance Company.

EDITORIAL NOTES

Now is the time to pay 1912 dues.

May the doctors have a Merry Christmas and a Happy New Year is the wish of The Journal.

Lost, strayed or stolen, an antispitting ordinance passed by numerous municipalities a few years ago.

Don't you wish you could comply with the requirements of the medical law as easily as a chiropractitioner?

Medical defense begins January 1 for all those who have paid dues for 1912. We hope that Secretary Combs will not be able to say on January 1 that there are many members of the Association who have failed to avail themselves of the full benefits of membership.

To an outsider the attitude of the labor unions in attempting to prevent the introduction of evidence in the McNamara trial at Los Angeles did not look good. If the alleged dynamiters were really innocent, no harm could have come to them from the introduction of the records of the labor organization to which they belong. The effort to keep out this evidence is in itself sufficient to make an unprejudiced person believe the McNamaras guilty, and that the evidence which they were attempting to conceal would be sufficient to establish guilt beyond question.

Collier's Weekly, in the issue of November 25, says: "Our mail is not always dull. It contains, for instance, a letter from a 'doctor' in Fort Wayne, Ind., offering to cure us, by long-distance guess, if we are ill, whether of epilepsy, goiter, catarrh, Bright's disease, consumption or paralysis; and if we are one of the first 10,000 applicants the cure is to be without charge, even postage paid. His letter begins 'Dear friend.' How full the universe is of bargains and benevolence!"

We could have told them that long ago, for Fort Wayne, as well as other Indiana cities, is full of just this kind of frauds.

An Indiana doctor writes us that he has in mind a very practical, original and unique statement for the use of physicians. He thinks the statement is worth something to physicians, and incidentally seems to think that he ought to make some money out of it, so he says: "If you will consider the purchase of this idea, or printing and selling the statement on a royalty plan, I shall be glad to submit you a sample showing the idea in detail." Aside from the propriety of the proposition and its acceptance, we are amused to think that by the wildest stretch of imagination The Journal should be considered as having any money to invest in patents, copyrights or royalties.

A recent issue of *Collier's Weekly* calls attention to the fact that Peruna and some of the other patent-medicine fakes are being advertised again after a period of comparative silence and inconspicuousness due to the fight waged against them by *Collier's Weekly*, the *Ladies' Home Journal* and some other magazines and periodicals which have fearlessly exposed the patent-medicine fraud. We hope that some of those publications that have taken a fearless stand for the correction of this national abuse will renew their

attacks on the patent medicine and quack doctor evil. Perhaps in time the daily newspapers will reach that stage of consciousness whereby such patent frauds will not be encouraged through the acceptance of the advertising which in reality is the only means of promoting them.

A BULLETIN from the United States Census Bureau states that the year 1909 was one of remarkably low mortality, and that nearly all states show a slight increase for the year 1910. The variation in the general reports in the several states is not very great, ranging from 10 per 1,000 for Washington, the lowest, and 17.3 for New Hampshire, the highest. Colorado is the only registration state reporting a decrease in the death-rate per 1,000 population. Indiana had a death-rate of 12.9 per 1,000 for the year 1909 and 13.05 per 1,000 for the year 1910. The bulletin calls attention to the fact that the slight increase for 1910 does not indicate, necessarily, more unfavorable sanitary conditions. It is pointed out that the registration area has been subject to considerable change, necessitating a rearrangement of the areas of the many subdivisions of which it is composed, so that any exact comparisons relating to the same registration areas cannot be made.

THE worst enemies of the medical profession are those within the profession. If it were not for the direct or indirect opposition of medical men we would have fewer battles to fight in the cause of medical progress. Open and conscientious opposition to those movements that are questionable in value is commendable, but the opposition that is based on selfish or commercial interests is unworthy of any right-thinking physician. We recall the statement of a congressman who said that the pure food and drugs act was opposed by some very prominent members of the medical profession, and all because selfish interests had a stronger hold on them than the sense of truth and right. In our own state some of the strongest opposition to legislation supported by the medical profession as a whole has come from certain doctors having grudges to satisfy or interests to serve. There ought to be a stronger union of medical men and less feeling of antagonism to medical progress.

DR. BARTON COOKE HIRST, Professor of Obstetrics in the University of Pennsylvania, has sent a letter to the State Examination Boards suggesting that the time has arrived for the requiring of an applicant for license that he shall possess evidence of practical training in obstetrics. It is generally admitted that young physicians are least well prepared in obstetrics and that lack of adequate preparation in this branch is productive of much harm. The best schools of the country demand of their students personal attendance on a certain number of confinement cases before graduation, although the number is small compared with the requirements of Europe, where forty or fifty cases are required before a candidate is licensed to practice. The committee of the American Gynecological Society last year recommended that at least six cases should be attended under supervision of an obstetrician. An appeal to state examination boards is now made to demand evidence of practical training in obstetrics before granting a license to practice medicine.

WE ARE still flooded with magazine articles, newspaper clippings and typewritten notices concerning the alleged incompetency of Dr. Wiley, and his alleged dishonesty in connection with his rulings and testimony concerning the pure food and drugs question. One would have to be very blind in order not to recognize the animus which inspires these attacks, for without a single exception the articles emanate from those whose dishonesty has been proved, and who have been forced to be reasonably good as a result of prosecution under the Pure Food and Drugs Act. Those who howl the loudest are the patent-medicine manufacturers, and it will be strange indeed if they do not, as a result of their enormous expenditures in advertising and promotion work, succeed in creating the popular impression that Dr. Wiley and all that he represents is all wrong. The patent-medicine business is a menace to public health, but the enormous profits obtained by the promoters of this nefarious business are not going to be surrendered without a struggle, and the fight against Dr. Wiley is only one of the many ways in which an effort is to be made to keep the business going.

MEDICAL men are usually a little slow to accept advice, but are free to offer it when it affects others. In consequence, they often suggest what should be done in the way of reforms, but seldom are willing to take the initiative or even offer assistance in bringing about the desired results. In the matter of illegal medical practice, for instance, the general public does not see the necessity of bringing the law-breakers to justice. It is a well-known fact that many men who

are not qualified to practice medicine, or who do not honestly comply with the requirements of our medical law, are licensed and practice medicine without molestation; but, on the other hand, there are some men who practice medicine without going through the formality of securing a license. If the medical profession would interest itself in the enforcement of the medical law, we venture to say that there would be a decided falling off in the number of those who totally ignore legal requirements. Likewise if the conduct of our boards of medical registration and examination was given a little closer scrutiny by the medical profession, and the back-bone of the boards was given a little stiffening through the influence of the medical profession, there would be fewer quacks and fewer incompetents granted licenses entitling them to impose on the public.

The reputable medical men who belong to various fraternal organizations are obliged to swallow considerable pride and put aside much self-respect when they attend "lodge" and brush up against the worst quacks and medical pretenders who are entitled, through membership in the "lodge," to be greeted as "brothers." The more dishonest and disreputable the quack is the more he desires to put on the cloak of respectability afforded by membership in a fraternal organization, and he seldom fails to secure admission. Once in a lodge the quack uses his connection for commercial advantage; in fact, usually that is what he looks forward to when he applies for admission. He mentions his lodge affiliations on every possible occasion, publishes the fact on his professional cards, and always wears the insignia in the coat lapel, on the finger and on the watch chain. When he publishes his picture in connection with a half page of quack advertising, there you will see the evidence of his membership in the leading fraternal organization, and respectable doctors are obliged to look on the picture and admit "he is my brother," even though he is a rascal. But it is a little humiliating to think that reputable medical men will permit such a thing, and particularly in the face of the knowledge that in practically all fraternal organizations one blackball is sufficient to reject, and the ballot is always secret.

It will be strange indeed if we do not have a spirited controversy some day over the question of contract practice. Organizations having for their principal object the furnishing of medical services at a nominal sum are constantly being organized, and already we hear of such organizations as the Moose, the Owls, the Snakes, the Turtles, and several other societies having equally fantastic names. Of course the fellows who organize these societies get a substantial "rake-off," and then there are certain officers who also come in for salaries. But the meat of the proposition is in the furnishing of medical services, and usually some "two-by-twice" doctor is found who is willing to sell his birthright for a mess of pottage and who contracts to take care of a family of a man, his wife, nine children and a goat for 50 cents, or at the most $1 per month. We are quite willing to believe that he is capable of prescribing for the goat, for it takes a good deal to kill a goat; but if his services to the family are worth no more than what he receives for them, we believe that the family better add to the protection by joining a society for furnishing the services of an undertaker and a tombstone maker. However, we are under the impression that eventually this situation will be relieved by a growing knowledge on the part of the public that the service of a good physician cannot be secured at so much per head, like cabbage, with everything thrown in, and that when services are bought in that way the purchase is usually a "lemon" and a bad one at that.

Notice to County Society Secretaries and Members of the Indiana State Medical Association.—Every county secretary has received by this time a book of uniform receipts for the collection of dues for 1912, which, if properly used, will put the business of the Indiana State Medical Association on a model basis. It is a system designed to prevent any error concerning whether or not a given member has paid his dues. While most secretaries have been accurate in their bookkeeping, nevertheless a great many mistakes happened this year, and ill feeling was engendered because some secretaries failed to account for money received. In many instances this was due to the fact that the secretary would use prescription blanks for giving receipts and thus would have no stub to show for it. If the secretary will use these receipt books in collecting all dues, and if members will insist on getting a numbered receipt when they pay, no mistakes can possibly occur next year. To enforce this system, positively no dues will be received from any secretary unless accompanied by this receipt properly filled out. If secretaries will use checks for sending remittance to the state secretary, no controversy can arise concerning currency lost in transit or otherwise not accounted for. Secretaries will please use the application blanks for

all members joining for 1912, who were not members in 1911. Adherence to this rule is necessary for the perpetuation of the card index file.

CHARLES N. COMBS, Secretary,
Indiana State Medical Association.

IT is unfortunate that so much selfishness should have developed in the distribution of funds obtained by the sale of holiday stamps, printed and sold to the public on the understanding that the proceeds shall be devoted to fighting "the great white plague." In Indiana, an organization that has been distributing stamps all over the state has very politely informed some of the various auxiliary societies that all funds collected by the sale of stamps shall be turned in to the parent organization and that the disposition of this fund shall be left to the central committee.

To make a long story short it is reported that this central committee is using the funds for the benefit of one of two communities only and refuses to consider the appeals of other communities equally as deserving, and even liberal contributors to the fund. Such a short-sighted policy could have but one ending, and that is friction and the withdrawal of some of the auxiliary societies. Fort Wayne, and probably some other cities in the state, has organized an independent society and put on the market a holiday stamp, the proceeds from the sale of which are to be devoted to local conditions. Other cities will probably follow the example. The merchants and all classes of people are urged to purchase the local stamps rather than those provided by state or national associations.

It would seem to us that this state of affairs is unfortunate, and can only end in a lessening of the benefits to be secured from this very commendable enterprise. It is also unfortunate that the efforts to accomplish something in Indiana are thwarted by the short-sighted policy of committees having selfish objects in view.

THE National League for Medical Freedom has an Indiana branch located in Indianapolis. In a pamphlet recently received we find that the advisory board contains the names of several well-known Indiana people, among whom are the following: Hon. Charles A. Bookwalter, former mayor, Indianapolis; Hobart M. Cable, Jr., vice-president H. M. Cable Piano Co., Laporte; Dr. M. E. Clark, secretary Indiana Osteopathic Association and Trustee American Osteopathic Association, Indianapolis; Hon. Charles Major, author, Shelbyville; Hon. L. Ert Slack, Franklin.

We would be willing to bet a dollar against a punched nickel that many of the people whose names are on the advisory board, and possibly some of those who hail from Indiana, have unwittingly taken over a "gold brick." Aside from the fact that those who are promoting the National League for Medical Freedom are guilty of the rankest deception and most brazen falsehoods, the fact has been established that this organization is financed and controlled, body and soul, by the venal proprietary medicine interests.

The promoters are fully aware that the medical profession could not, if it would, force the public to employ physicians belonging to a certain sect, or to even have any physicians at all, but they do know that the creation of a department of public health would mean the dissemination of knowledge of public health and its preservation which would sound the death-knell of the proprietary medicine interests. It would also sound the death-knell to enormous frauds parading under the guise of benefactors, and it is these and their ilk who are opposing a department of public health and spending their ill-gotten gains to accomplish the end. It would seem that any reasonable thinking person ought to understand the true condition of affairs, and appreciate the necessity of withholding support of such a selfish project.

THE division of fees or the payment of commissions by physicians or surgeons to general practitioners who bring them cases is to cease in Kansas City if the local medical society can enforce resolutions adopted at a recent meeting. The resolutions in part are as follows:

> *Resolved*, That it be considered the duty of the board of censors of the Jackson County Medical Society to investigate charges against members, laid on the basis of such division of fee, and on receipt of proof of such an offense the Council shall recommend to this society the expulsion of such member. And be it further
>
> *Resolved*, That in case of the expulsion of a member for this cause, the fact thereof and the cause shall be given full publicity.

This sounds very well, but we doubt the possibility of securing evidence which will lead to convictions. The physician who gives a commission, as also the physician who accepts a commission, belongs to the species of crooks who take good care to cover their tracks, and for the reason that they know that publicity would prove their undoing. If the division of fees is not dishonest, and has the slightest semblance of justice in it, why

should there be so much secrecy in carrying on the practice? We have yet to hear of a doctor having the slightest claim to a reputation for integrity make any defense of the division of fees as ordinarily practiced. But gradually the public is becoming acquainted with the facts, and some of these days the public press will publish some articles concerning this question which will prove very embarrassing to certain physicians who have been guilty of the most dishonest trafficing in the ills of humanity. The ethical members of the medical profession will welcome such a publicity of deceit practiced by certain members of a profession that should be above those things which savor of dishonesty while dealing with the misfortune of others. When the time comes let us have all of the facts, including the names of those against whom evidence has been obtained. The public has a right to the truth, and the medical profession, while temporarily suffering from the stigma, will afterward be the better for having stamped out a practice that is as demoralizing as it is dishonest.

At the last session of the Indiana State Medical Association, Dr. Nettie B. Powell of Marion was officially made the Indiana member of the American Medical Association committee for public health education among women. Dr. Powell presented a brief report before the House of Delegates in which she called attention to the work that has been done under the auspices of the A. M. A. She directed particular attention to the resolutions passed by the A. M. A., which are as follows:

Whereas, The American Medical Association, not only as one of its declared purposes, but by the numerous lines of activity, many of them connected with the Section on Hygiene and Sanitary Science, stands committed to the education of the public with respect to the nature and prevention of disease; and

Whereas, The demand for such popular education with respect to tuberculosis, cancer, typhoid fever and other decimating diseases has become urgent; therefore be it

Resolved, That all county, district and other local societies be and they are hereby requested to hold annually one or more open meetings to which the public shall be invited and which shall be devoted to the discussion of the nature and prevention of disease and to the general hygienic welfare of the people.

Resolved, That the women physician members of the American Medical Association be and they are hereby requested to take the initiative individually in their respective associations in the organization of educational committees to act through women's clubs, mothers' associations and other similar bodies, for the dissemination of accurate information touching upon these subjects among the people, and that they be requested to submit to the House of Delegates a yearly report of such work, and elect from among their number a committee to take charge of the same.

These resolutions created the committee, and has resulted in splendid work in the majority of states, though but little has been done in Indiana. Dr. Powell makes a special appeal for the cooperation of medical men in Indiana, with a view to arranging health talks before the different fraternal organizations, high schools, church organizations and women's clubs. In this manner a larger number of people will be reached, and public health education in Indiana will take a great step forward.

For the last two months we have been trying to obtain correction of the stenographer's notes of discussions of papers presented at the Indianapolis session of the Indiana State Medical Association. We have finally come to the conclusion that it is a hopeless task, and accordingly if any papers are published without discussion our readers will understand that it is because we have been unable to untangle the notes of discussion as turned over to us for publication. The mistakes and omissions are so numerous that even the discussants themselves have been unable to make corrections and additions without altering the substance matter.

In some instances we are unable to learn who discussed certain papers, even though the discussion has been turned in, and in other instances discussion that is credited to certain members is disclaimed by those to whom it is credited. It is exceedingly unfortunate that the report of such an interesting session could not have been more accurate, and in justice to the editors of The Journal we feel warranted in saying that an effort has been made to patch up the discussions as much as possible, but they probably are very inaccurate and incomplete. As stated in the last number of The Journal, the fault does not entirely rest with the stenographers, who probably had some hesitation in offering suggestions to those in charge of the meetings. However, another year we hope that a rule will be followed whereby the name of every speaker will be placed on a blackboard so that not only the audience will be able to know who the speaker is and where he comes from, but the stenographer will also have an opportunity of getting the correct name and address.

Each section should have a secretary whose business it is to take charge of the clerical work, and to him should fall the duty of securing the names and addresses of speakers. Then, again, each speaker should be required to come forward

and stand near the stenographer's desk when he discusses papers. This plan is not only better for the stenographer, but better for the audience. Lastly, it goes without saying, that good stenographers should be procured, and if the suggestions herein offered are followed there is no reason why the 1912 session of the Indiana State Medical Association cannot be reported accurately and in detail in the columns of THE JOURNAL.

WE FREQUENTLY receive newspaper clippings from various sections of Indiana giving accounts of wonderful operations or miraculous treatments that have been employed successfully by certain physicians (members of our Association) who, because of "unusual training and ability, are worthy of the greatest confidence of the public, and deserving of the great credit that is due for the cures that have been made." (Quoted from clipping recently received.) In every instance the physician's name is given in full, and usually the laudatory article is so filled with medical terms and scientific phrases as to leave no room for doubt that the information was given by the physician himself with the full intention and desire that it should be used to advertise him.

The physician who will resort to this kind of self-exploitation, and there are many members of the Indiana State Medical Association who have been guilty of the practice, is no better than the quack doctor who advertises in the regular way and pays for it. In some of the larger cities and towns of Indiana there are physicians who are virtually "ambulance chasers," and who with a view to being on the ground whenever an accident occurs, have police departments, foremen of shops and telephone girls as paid representatives to give notification whenever an accident occurs and to influence the distribution of such cases to physicians. Of course, such doctors always get their names in the papers, for they are ready and anxious to be interviewed by the ever-present reporter, and if no reporters are around it is but a trifling inconvenience to stop at the newspaper office and give a full account of the accident or injury, suitably embellished with an opinion as to the nature of the injury and the skill required for its care.

There should be some means of putting a stop to this nauseating practice on the part of supposedly reputable men whom we permit to retain membership in our medical societies. We are too free to throw the mantle of charity over some of our erring brothers, and it is time that we discipline them among ourselves rather than before the public. THE JOURNAL will maintain a scrapbook for the filing of laudatory newspaper notices concerning physicians, and it will be interesting to note how frequently the names of some physicians appear in print. Some day THE JOURNAL will publish a little interesting information concerning this matter, and give names, dates and full information concerning newspaper advertising as procured by some physicians who ought to be above the practice.

CORRESPONDENCE

KEMPER'S MEDICAL HISTORY OF INDIANA

INDIANAPOLIS, Nov. 15, 1911.

To the Editor:—I desire to call the attention of the readers of THE JOURNAL to the book on Medical History of Indiana by Dr. G. W. H. Kemper. No member of the Indiana State Medical Association, present or past, has rendered a more conspicuous service to the medical profession than Dr. Kemper in the authorship of this work. It has been an arduous and most tedious undertaking. With him it has been purely a labor of love for the profession he honors. No possible financial benefit could accrue. The truth is that not only has he received no compensation for the enormous amount of labor and time which he has so unselfishly devoted to this great work, but he is actually out of pocket a considerable sum in the publication of the book. It is not to the credit of medical practitioners of Indiana that this should be so. Let every practitioner who has self-respect and admiration for his noble calling, purchase one of these excellent books on the Medical History of Indiana, and save the profession from the charge of indifference to the splendid work of Dr. Kemper.

Respectfully, FRANK B. WYNN.

NEWS, NOTES AND COMMENTS

DR. B. O. BOWELL, Laporte, and Miss Madeline Raguet were united in marriage October 13.

A RESOLUTION favoring the creation of a sanitary department of the city board of health of Indianapolis has recently been submitted to the mayor's advisory committee by Dr. B. A. Brown of the commission.

Dr. Richard Stephenson of West Lebanon has recently resigned the position of county coroner.

Dr. F. A. McGrew, Laporte, has recently returned from a western trip, very much improved in health.

Dr. Thomas E. Courtney of Indianapolis sustained slight injuries as result of an auto accident, November 20.

The Board of Trustees of Indiana University have decided to proceed at once with the erection of the Robert W. Long Hospital on the site selected for it in Military Park.

Infantile paralysis claimed sixteen victims in Indiana during October: two each in Marion, Gibson and Vanderburg, and one each in Dearborn, Franklin, Hancock, Howard, Kosciusko, LaPorte, Orange, Putnam, Tippecanoe and Warrick counties.

Dr. C. S. Woods, Indianapolis city sanitarian, has recently appointed Jack J. Hinman city board of health chemist, to fill the vacancy caused by the resignation of W. D. McAbee, who sometime ago accepted a position with the State Board of Health.

At the annual meeting of the Eighth Ohio District Medical Society, held in Cambridge Ohio, November 22, Dr. J. N. Hurty presented two addresses: "The Future Hygiene" at the afternoon session, and "What Medicine Has Done and Is Doing to Advance Business," in the evening.

A number of Indianapolis citizens have organized the Marion County Anti-Tuberculosis Association to fight the spread of tuberculosis in Indianapolis and vicinity. The association will take its first step in the interests of antituberculosis work by managing the Red Cross Christmas seals campaign in Marion County. The money raised by the sales in the entire county this year will revert to the treasury of the local organization to be use by it in antituberculosis work.

The fourth semi-annual meeting of the Fifth District Medical Society was held at the Indiana Tuberculosis Hospital, Rockville, November 16. The program consisted of the following papers: "The Early Diagnosis of Pulmonary Tuberculosis," W. A. Gekler, Rockville; "Practical Suggestions for the Life Insurance Examiner," J. R. Yung, Terre Haute; "Some Practical Details in Urinalysis for the Busy Doctor," S. G. Hollingsworth, Brazil; "Infantile Paralysis," M. F. Woodard, Bloomingdale; and an address by J. H. Weinstein, councilor for the district.

The regular meeting of the Fountain-Warren County Medical Society was held at Mudlavia, Kramer, Ind., December 7. The following program was presented: "Indications and Contra-Indications to Salvarsan," Dr. L. W. Bremerman, Asst. Prof. G. U. Surg. College, P. and S., Chicago; "Obstruction Lachrymo-Nasal Duct," Dr. W. F. Hughes, Asst. Prof. Diseases of Eye, Indiana University School of Medicine; and "Modern Views of Tonsil Pathology and Its Treatment," Dr. Burton Haseltine, Prof. Rhin. and Laryn., Hahnemann Medical College, Chicago.

Since November 1 the following articles have been approved by the Council on Pharmacy and Chemistry of the A. M. A. for New and Nonofficial Remedies:

Fermentdiagnostikum (Kalle & Co.).
Crurin Purum (Kalle & Co.).
Crurin Dusting Powder (Kalle & Co.).
Digalen Tablets (Hoffman-LaRoche Chemical Co.).
Sodium Peroxide R. & H. (Roessler & Hasslacher Chem. Co.).
Mercuric Oxycyanide (Merck & Co.).

The regular meeting of the Twelfth District Medical Society was held in Fort Wayne November 8. The morning session was devoted to a clinic at Hope Hospital by Dr. Charles W. Emerson of Indianapolis, Dean of Indiana University School of Medicine. The papers presented at the afternoon session were as follows: "Some Things That We Do Not See Every Day," D. S. Linville, Columbia City; "Etiology and Treatment of Pernicious Anemia," John R. Clapp, Ligonier; "Hereditary Ataxia," George B. Morris, Poneto; "Post-Partum Hemorrhage," Rudolph W. Holmes, Chicago; "Acromegaly," C. C. Rayl, Monroe.

The annual meeting of the Seventh District Medical Society was held in Franklin, November 24. The following papers were presented:

Address of Welcome. E. A. Hanley, Franklin; Spirits Frumenti Prescriptions. H. J. Hall, Franklin: Pneumonia. John S. Ragan, Plainfield; Headaches. Chas. P. Emerson, Indianapolis; The Use of Autogenous Vaccines in the Treatment of Mixed Infections of Pulmonary Tuberculosis. Thos. J. Beasley, Danville; Surgery of the Tonsils, Daniel W. Layman, Indianapolis; Indications for Surgical Interference in Gall-Stone Disease. Thomas C. Kennedy, Indianapolis; Some Common Rectal Diseases, George J. Cook, Indianapolis; The Future of the Medical Profession, R. W. Terhune, Whiteland; Some Remarks on the Efficiency of Medical Societies. W. F. Howat, Hammond.

THE Indiana University School of Medicine has just opened in the City Dispensary, for which it is responsible, a Social Service Department. This department will be in charge of Miss Edna Henry, who is connected with the Department of Sociology of Indiana University, Bloomington.

The specific work of this department is to make it possible for patients to profit by their visits to the dispensary. Probably more than half of our patients need advice more than they need medicine, and to follow this advice is often out of the question, because of their inability through ignorance or because of their limited means. The condition present in other cases cannot be understood from the examination of the patient alone, but the home and industrial environment must be studied as well as the patient's body. Miss Henry will be aided in her work by a staff of volunteer workers from among the medical students and from the city.

DR. WILLIS D. GATCH has just begun his work as Associate Professor of Surgery of Indiana University in Charge of the Surgical Laboratories. Dr. Gatch is an Indiana boy, born in Aurora, Ind., educated in Indiana University, from which he was graduated with the degree of Bachelor of Arts in 1901. He was graduated in medicine from Johns Hopkins University in 1907. For about four years he was on the permanent surgical staff of the Johns Hopkins Hospital, and left this summer to accept a very advantageous position in the Washington University, St. Louis, Mo. From that position he accepted the call to Indiana.

Dr. Gatch showed himself in Baltimore as a man of exceptional promise as surgeon, research worker and teacher of surgery. The present plan is that while Dr. Gatch occupies his present position as Associate Professor, he shall devote himself entirely to the teaching of surgery, conduct a laboratory course in operative surgery and teaching surgical pathology.

THE thirty-eighth semi-annual meeting of the Northern Tri-State Medical Association will be held at Fort Wayne, Jan. 9, 1912. Every physician from Indiana, Ohio and Michigan, in good standing in his state association, is cordially invited to attend the meeting. The program is as follows: Clinic by Dr. John T. Geraghty of Johns Hopkins Hospital, Baltimore, at Hope Hospital, 9 to 10:30 a. m. Who Should Operate, Charles Stultz, South Bend; Postoperative Infection, B. F. Kuhn, Elkhart. The afternoon program will consist of the following papers: Cancer of the Breast, illustrated with lantern slides, George M. Todd, Toledo; The Need of Accurate Diagnosis, Charles P. Emerson, Indianapolis; The Colon in Chronic Constipation, illustrated with lantern slides, Louis J. Hirschman, Detroit; Esophagoscopy and Bronchoscopy by the Killian Method, illustrated by lantern slides, Thomas Hubbard, Toledo; Seeking Other Gods: The Restless State of the Profession, J. S. Weitz, Montpelier; The Radical Operation for Carcinoma of the Uterus, illustrated with lantern slides, Reuben Peterson, Ann Arbor; Estimation of the Renal Function, Dr. John T. Geraghty, Baltimore. Evening—Fever: Its Nature and Significance, Victor C. Vaughan, Ann Arbor. This will be followed by interesting and profitable entertainment by the Fort Wayne profession.

THE Indiana University School of Medicine is, so far as we know, the first medical school to inaugurate a clinic in Social Medicine. Dr. Emerson, the Dean, conducts the clinic in connection with the regular medical conference each Tuesday from 11 until 12 o'clock. In the discussion of patients who are presented during this hour, just as at any medical clinic, the etiology of the condition is considered from the point of view of the patient's habits, his home and industrial environment, or as therapy the improvement of these conditions is discussed.

For instance, a man with lead palsy owes his trouble to his occupation, and unless the man is aided to change his occupation, his lead poisoning will continue; a warm suit of clothes is quite as necessary for a boy suffering from some forms of rheumatism as is a bottle of medicine; some gastric troubles will not improve unless the per-

son who cooks the food learns better methods of housekeeping, etc.

This clinic is open to all interested from the city, and several of these have been only too willing to offer their services as volunteer friendly visitors to the families in which they become interested. This work of organizing medical students as friendly visitors was first started in this country by the Dean while connected with the Johns Hopkins University, and the year that he left that institution 64 or 25 per cent. of the medical students were in active work among the poor of the city.

DEATHS

Mrs. Nellie Smullen, aged 44, wife of Dr. C. L. Smullen of Raleigh, died of peritonitis at the sanatorium in Rushville, October 30.

Dr. Wilmot Moore, aged 90, died November 26 from senile debility. Dr. Moore had been an active physician in Terre Haute for fifty years.

Dr. L. C. McFatridge of Atlanta, Ind., died of tuberculosis at the country home of his daughter in Rushville, November 21, aged 63 years.

Dr. Katherine Snyder Busse, wife of Dr. E. P. Busse, superintendent of the Southeastern Insane Hospital at Madison, died November 27.

Dr. Charles G. R. Moutoux, aged 70, died suddenly at his home in Evansville, December 1. He had practiced medicine in Evansville for nearly forty years.

Dr. Michael Dienhart, aged 70, died at his home in Lafayette, November 10. He was a native of Germany, studying medicine in his native land, and coming to Lafayette in 1858.

Dr. Beecher B. Powell, one of the best known physicians in Logansport, died November 27, following a stroke of paralysis, aged 68. Dr. Powell was born in Cass County in 1843 and lived there all his life.

Dr. Laughlin O'Neal, aged 86, the oldest practicing physician in northern Indiana, died at his home in Wabash, November 25. He had practiced medicine in Wabash County for sixty years.

Dr. Charles F. Spencer, aged 70 years, died at his home in Indianapolis, November 29. He had for several years been afflicted with heart disease, and it is thought his death was due to this cause.

Dr. William Henry Smith died at his home in Bedford, October 30. He was a graduate of the Louisville Medical College and the Bellevue Medical College. Dr. Smith was born in Salem, Ind., Sept. 5, 1830. He was one of the founders of the Lawrence County Medical Society, of which he was a zealous member. He was 81 years of age.

Dr. John R. Mauk was born in Muskingum County, Ohio, May 20, 1832. He spent his boyhood days on his father's farm and in attending the common schools. After spending some time in the Ohio University, he studied medicine with Dr. Holland of Mt. Pleasant, Ohio. In 1859 he graduated at Starling Medical College at Columbus, Ohio. He practiced medicine in Ohio until 1862, when he enlisted in the Civil War in the Ninetieth Ohio Regiment, from which service he was discharged on account of heat prostration in 1863. He then returned to Ohio and practiced medicine until 1869, when he came to Jacksonburg, Ind., where he practiced medicine for three years. At this time he was taken with intestinal disease, from which he suffered for two years. After regaining his health he located in East Germantown, remaining there until 1885, when he located in Cambridge City, where he practiced until his death.

In 1888 a partnership was formed with Dr. H. B. Boyd, which continued for fifteen years. He then desired less arduous work and an office partnership was formed, which continued for seven years more, or until his death.

He was one of the early members of the Wayne County Medical Society; also of the district, state, American Medical and Railroad Surgeon associations. For twenty-two years he was surgeon for the P. C. C. & St. L. and Big Four Railways. For thirteen years he was a member of the U. S. Pension Examining Board.

As a citizen, Dr. Mauk was always public spirited, and his subscriptions to causes which would advance the interests of his home town were always among those of persons who could better

afford it. He was always at the front in civic matters, and was leader in several measures which were for the betterment of the community. His last crowning effort was to make his home town dry, which had always been noted for its liquor business.

Dr. Mauk had a decided mechanical turn and used it to great advantage in meeting emergencies with the means at hand. With binders board he could make splints that would be suitable for almost any fracture. He early operated on cases of empyema, making his own drainage tubes of metal. More than thirty such cases gave successful results.

As a physician he was an optimist. His strong personality made his patients believe there was no other way than to get well.

His death occurred, following a long illness, Aug. 29, 1911.

SOCIETY PROCEEDINGS

STATE ASSOCIATION MEMBERSHIP

The following is a list of those who have paid Association dues between the dates Nov. 1 and Dec. 1, 1911. The number before each name indicates the number of the membership card issued by Secretary Combs. The list published in the November number includes all those who paid dues to November 1, or up to 2442, inclusive. Errors in name or address should be reported to Secretary Combs, giving number of the membership card in order to facilitate prompt detection of the error on the membership records. The list as published in the September, October, November and December numbers constitutes the mailing list of THE JOURNAL, and any member whose name appears on the published list and who does not receive his journal is requested to write for a duplicate copy.

No.	Name and Address.	County Society.
2443	T. L. Taylor, Indianapolis	Marion
2444	H. S. Hewitt, Mishawaka	St. Joseph
2445	F. A. Bushahn, Logansport	Cass
2446	H. W. Bopp, Palmyra	Harrison
2447	Chas. A. Inks, Nappance	Elkhart
2448	John S. Inks, Nappanee	Elkhart
2449	J. K. Pollock, Madison	Jefferson
2450	J. C. Hardesty, New Castle	Henry
2451	Ira J. Gill, Dugger	Sullivan
2452	Karl T. Brown, Indianapolis	Member Montgomery Co.
2453	S. J. Copeland, Indianapolis	Marion
2454	H. L. Conner, Indianapolis	Marion
2455	O. W. Ridgeway, Indianapolis	Marion
2456	H. G. Morgan, Indianapolis	Marion
2457	J. W. House, Indianapolis	Marion
2458	L. G. Cromer, Union City	Randolph
2459	John A. Sipe, Carthage	Rush
2460	C. P. Emerson, Indianapolis	Marion
2461	E. P. Busse, Evansville	Vanderburgh

FORT WAYNE MEDICAL SOCIETY

Meeting of September 26

Society met in regular session in the Assembly Room with sixteen members present. Minutes of previous meeting read and approved.

Clinical cases. Dr. Morgan reported the result of a case of tuberculosis treated with succinimide of mercury and supposed to have been cured by this treatment. Patient is now in advanced stage of tuberculosis.

Dr. Glock reported the involvement of patient's second eye with interstitial keratitis. Case previously reported to this society.

Dr. Van Buskirk read a paper on "The Dissemination of Small-Pox." He said in part that this disease is included with those where notification is compulsory under penalty. The chief cause of the dissemination is the perambulation of those suffering from a mild form of the disease. This is the reason that the source of infection cannot often be traced. Fomites plays a small part if any in the dissemination of the disease. It is disseminated by contact of those having little resistance to the infection with those having the disease. Extreme care regarding asepsis on the part of those in attendance is sufficient to prevent the carrying of the disease by a third party providing he is immune. Vaccination is the most sure preventative of the disease.

Dr. Morgan took issue on the statement that clothing does not carry the disease. Stated that clothing that has been saturated with pus must carry infection. Disease has lost its terrors.

Dr. Gilpin does not believe that any disease is much borne through air. Believes that sterilization of hands is all that is necessary. Most cases can be traced to a third party.

Dr. Weaver said that it would overthrow our quarantine system if we follow the plan of Chapin and Dodez. He believes we should hesitate before we adopt their plan of handling these diseases, for one which has been in vogue for so many years. Until we know more about the etiology of small-pox we should make haste slowly.

In closing Dr. Van Buskirk said that lack of good sanitary conditions and lack of quarantine is responsible for many deaths. Bankers or people who handle large amounts of money should be infected often if fomites were the cause of infection. Lack of contact of doctor with patient is responsible for lessened spread of contagious diseases. Small-pox is mild, not because of vaccination alone; before Jenner's time it had periods of mildness. This seems to be the usual course of every infectious disease. Most of these diseases are milder than they were prior to the year 1888.

The society was addressed by Dr. Garner who is to deliver a series of popular lectures on the "Social Evil" in this city.

Adjourned. G. VAN SWERINGEN, Secretary.

Meeting of October 3

Society met in regular session in Assembly room with twenty-one members present. Minutes of previous meeting read and approved.

Clinical cases. Dr. B. Van Sweringen reported history of case of ovarian cyst with twisted pedicle, in a girl of 16 years. Cyst removed. Uninterrupted recovery.

In opening the discussion. Dr. Duemling said that this is one of the so-called abdominal tragedies, serious

from moment of onset; difficult of diagnosis in some cases. Should be differentiated from appendicitis, ruptured ectopic gestation. The most important symptoms (acute pain, fainting, vomiting) occur in both.

Dr. Bulson reported case of young man who four days before consulting him was blinded by flash of lightning striking near him in school house. Had blurred vision in right eye. Family physician dismissed case as unimportant. Vision partly returned. Fundus hyperemic. Field of vision contracted; not much photophobia. Vision 20/30. Prescribed rest for eye and K. I. internally, followed by improvement, but still hyperemic at this time. This is a case of so-called retinitis electrica. Dr. Bulson has had one other case in twenty years.

Dr. Calvin read a paper entitled "Echinacea and its Uses."

Dr. Morgan said he had had very little experience with the drug. Sent for some literature from Lloyd & Co. and all that was sent was information to the effect that echinacea was good for certain conditions; no physiological action being given. Has used the drug in several cases of chronic eczema and one case got entirely well.

Dr. Carey has used echinacea, but not frequently. As a tonic combination and antiseptic has had good results.

Dr. Gross said that the drug is being used much more frequently as an antiseptic and alterative. Believes that echinacea has come to stay just as cascara has come to stay. Lloyd's term specific means that his drugs are of specific strength, not specific for certain diseases. These drugs owe their action to an active principle.

Dr. Weaver does not believe that the drug has any action against pyogenic organisms. No tests for the proof of this action have ever been made, i. e., in comparison with other antiseptic agents.

Dr. Bulson said that the strange thing to him is that a preparation that has been on the market so many years should not have received recognition by some of our clinicians. The fact that certain conditions improved under its use does not prove that improvement was due to its use. Chronic otorrhea cases are not cured by echinacea you will discover if you will probe ear with cotton applicator. Has not had any experience with echinacea and has not seen any results by its use in the hands of others.

Dr. Duemling reviewed history of the botany of echinacea. Reported case of degenerating ectopic sepsis which recovered under the administration of echinacea; would not attempt to deduce anything by this case.

Dr. Weaver asked the strength of the specific tincture. The application of the extra strength alcohol is responsible for results; alcohol is a good germicide.

In closing, Dr. Calvin said that his attention was called to echinacea by an old practitioner in a case of cancer of the stomach. Every drug that is introduced is subject to criticism. The preparation has been made by Lloyd for seven years. Formerly made by individuals who used it.

Bill of $3.50 from F. M. Smith allowed. Literature of the order of Owls read; no action taken by society. Dr. Duemling read letter from Secretary Spohn of the Tri-State Medical Association. Motion carried that president appoint a committee to arrange for Tri-State meeting in January.

Adjourned. G. Van Sweringen, Secretary.

INDIANAPOLIS MEDICAL SOCIETY

Meeting of November 7

Meeting called to order by vice-president. Minutes of previous meeting read and approved. Attendance 67. Dr. Jobes, chairman of the Committee of the Revision of the Constitution and By-Laws, called attention of the society to the needs of the publication of the report. The society voted to authorize such publication.

The following applications were read for the second time: Drs. Scifers, Ridgeway, Guedel and J. V. House. The following applications were read for the first time: Drs. Bush and Lowder.

The program consisted of case reports. Dr. Potter reported a case of double empyema in a child aged 6. Dr. Potter gave the following case history: "I saw this little boy May 31, 1910, in consultation with his physician, Dr. Gebauer. He had had measles in March, whooping-cough in April; following the pertussis he developed bronchopneumonia, and for a week had the ordinary symptoms of pleurisy. Dr. Gebauer suspected an effusion. We found empyema on the left side encysted behind the axillary line. The next day we opened and drained the left side. The finger in the cavity readily recognized the adhesion along axillary line. Half pint of pus was removed. Bacteriological examination showed a pure pneumococcus infection. On June 28 I was again called by Dr. Gebauer who suspected an effusion in the right side. The drainage tube was still in the left side. We now found empyema of right side, encysted behind the axillary line. Incision and drainage, the finger again recognizing the adhesions. Pure pneumococcus infection was again shown by bacteriological examination. The tube was removed from right side in ten days and patient has since been well. Case presented.

Dr. Link reported case of pistol wound of the stomach, liver, diaphragm, spleen and kidney. Patient operated and recovered. Through and through sutures were used inclosing wounds of liver and spleen. Drawings showing condition present and measures employed were presented.

Dr. G. B. Jackson reported two cases of uterine fibroid and associated hyperthyroidism. He also reported case of eclampsia and hyperthyroidism.

Dr. E. E. Padgett reported case of acute hyperthyroidism following pelvic operations, resulting in death. The patient had been operated some time previously for the relief of an exophthalmic goiter; the result was good and secondary operation was done after all evidences of any hyperthyroidism had disappeared.

Dr. F. B. Wynn reported a case of molluscum fibrosum. Case presented. Patient had enormous tumor masses involving the right hand and right arm. Smaller growths were present over the greater part of the surface of the body. Condition chronic and the patient in good health. Case was compared to another case presented a few years ago.

In opening the discussion, Dr. G. B. Jackson, referring to Dr. Padgett's case, asked if postoperative sepsis might not have been cause of death. Clinically diagnosis of sepsis could have been made.

In answer to Dr. Jackson's question, Dr. Padgett said that the evidence of hyperthyroidism appeared shortly after the operation. There were no abdominal symptoms and drainage was good. Tremor was present in addition to exophthalmos.

Dr. H. Pantzer reported a case of Associated Fibroid Tumor of the Uterus and Hyperthyroidism. Patient

operated with recovery. Evidences of hyperthyroidism appeared twelve days after operation.

Dr. David Ross mentioned the association of the disease of the genitalia and hypersecretion of the thyroid. Removal of the thyroid gland should not precipitate acute thyrotoxis but just the opposite should be expected. In Dr. Padgett's case, he said that infection was probably the cause of death.

Dr. Link's case very interesting, and each case of gunshot wound of the abdomen must be considered individually. A large incision is necessary. In reference to Dr. Wynn's case, he reported a case of molluscum fibrosum which was mistaken for lipoma. Surgery is indicated when large tumor masses are present.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of November 14

Meeting called to order by president, with 47 members present. Minutes of last meeting read and approved. The Council reported, recommending the election of Drs. Emerson, Guedel, J. W. House, Ridgeway and Conner. Two rejections were recommended. The report was accepted by the society.

Dr. Jobes, chairman of the Committee on the Revision of the Constitution and By-Laws, reported for the committee. The society voted to instruct the secretary to send the report to all members of the society in accordance with requirements of the By-Laws.

The paper of the evening, "Blood-Pressure with Exhibit of Apparatus," was read by Dr. Foxworthy. The importance of blood-pressure was first realized by von Basch in 1876, modified in 1889 by Potain and completed in 1896 by Riva Rocci in Italy and by Hill in England. First used in this country in 1901.

There are two classes of sphygmomanometers, one using a column of mercury and one using a spring. The clinical use advanced by Drs. Theo. Janeway, Harvey Cushing and Henry Wireman Cook. It is impossible to get accurate knowledge by palpation. Variations are present according to drugs, excitement, age, etc. The normal pressure varies from 120 to 140 according to age. Importance of estimating blood-pressure from a life insurance standpoint was considered. Hypertension is found in cardiovascular and renal diseases. Hypotension is found in tuberculosis, cachexia, exophthalmic goiter and Addison's disease. Summary of 150 life insurance companies, showed that 104 use it in their examinations.

In opening the discussion, Dr. F. O. Dorsey said that the knowledge of blood-pressure is particularly valuable in insurance examinations. The mercury type is the best. The spring indicator is convenient and useful in general work, but deteriorates and should be compared at intervals with the mercury apparatus. The knowledge of the blood-pressure in individuals having few symptoms but a great underlying condition can be controlled. The blood-pressure determines whether or not there is a basis for a serious disturbance and determines the treatment. The lowering of blood-pressure should be done by a change of habits and the manner of living and not by vasodilators. If the blood-pressure remains higher than the pulse-count, stimulation is possible; the opposite is also true and necessitates an unfavorable prognosis. A continued low blood-pressure is evidence of tuberculosis. In heart disease the determining of the blood-pressure is valuable. In aortic regurgitation the difference between the systolic and diastolic pressure is great. Blood-pressure is not always low in disease of the heart muscle. Stethoscope is useful in making the reading.

Dr. McDonald said that many things about blood-pressure are undetermined. The individual case should always be considered. A change in habits will often induce a high blood-pressure. The vasodilators in such conditions are contra-indicated. The study of blood-pressure should have a greater application in surgery than it has.

Dr. Dodds said that blood-pressure apparatus has taught the medical profession the definite use of heart stimulation. The various drugs have been tested and the degree of pressure produced and duration have been determined. Low blood-pressure in tuberculosis is a bad sign. The blood-pressure apparatus has been used in determining the dosage of tuberculin, too large a dose causing a decided fall in the blood-pressure.

Dr. Kimberlin said that the study of blood-pressure was very important. Various causes of high blood-pressure were enumerated. He dwelt at length upon the discussion of tobacco as a cause of high blood-pressure. He is convinced that general habits of smoking had greater effect than usually believed. One case in which there had been a blood-pressure of 220 fell to 137 by changing the habits in using tobacco.

Dr. Foxworthy closed the discussion by citing cases where the determining of the blood-pressure was particularly important.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of November 21

Society met in regular session with 49 members present. Meeting called to order by president. Minutes of last meeting read and approved.

Dr. W. N. Wishard announced the meeting of the medical societies of the Seventh District at Franklin, Ind., November 24.

The paper of the evening was read by Dr. David Ross on "Hernia in Infancy and Childhood." In part the author said: "Coley states that one-third of all cases of hernia between the ages of 1 and 14 are congenital. Russell gives the following classification, (1) Congenital, depending on a patent processus vaginalis; (2) Funicular, depending on a partial patency of the processus vaginalis; (3) Acquired, depending on some fault in the abdominal wall. He further states that, with rare exceptions, all herniæ of childhood are congenital. Corner believes that all herniæ except those present at birth are acquired and that gastro-intestinal fermentation is the greatest factor in the cause. He concludes that in childhood there are about two cases of acquired hernia to one of congenital type.

Treatment of hernia is generally agreed upon. Corner believes that the truss will often cure acquired hernia in childhood. The congenital type would not be benefited. In children the smallness of the opening, with its tendency to contract if the hernia be retained, and the changes in the relations of the internal and external rings are reasons why truss treatment might be successful. Infants stand surgery well. Coley gives the following rules determining operation in infants: (1) Hernia is strangulated even if the strangulation is reduced; (2) Where the hernia is irreducible or reduced with difficulty; (3) Where the sac cannot be controlled by truss and is increasing in size; (4) In all cases of femoral hernia which are never cured by truss; (5) In all cases of associated reducible hydrocele with fluid in the hernial sac; (6) In cases of undescended testicle. Operation should be done as early

as practicable for the following reasons, 1, the anatomical change is small; 2, the active period of life has not begun; 3, economic reasons.

Seven cases were reported, the ages varying from four hours to six years. In type, one was umbilical and six inguinal. The following conclusions were made: (1) There is no greater risk to life or well being of patient in early operations, viz., first to fourth year, than later; (2) That the child in early infancy, one to two years, is no harder to care for after operation than later, in fact, easier than after three years of age; (3) That early operation offers the best chances for complete cure; (4) That the simplest operation is the best—generally tying of the sac is sufficient; (5) That the operation while simple in technic, is exceedingly delicate and unless great care is used, lasting damage may be done from rough dissection or too tight closure around the cord."

In the discussion Dr. Oliver said that 90 per cent. of hernia in children will close with the use of the truss. He does not think simple ligation and excision of sac is sufficient surgical treatment. The failure of the internal oblique, transversalis and conjoined tendon to be attached low down on Poupart's ligament still leaves a weak place in the abdominal wall and to best promote a permanent cure, these layers should be pulled down and fastened. He usually operates after four or five years.

Dr. Chas. J. Cook said that it was his habit to use a bandage or a truss for the early treatment. Mothers often will not allow early operation. When trusses are hard to fit he uses a support made from a skein of yarn.

Dr. Jackson said that herniæ of infants often disappear after digestive disturbances are corrected. They may recur and he thinks they may also recur if at operation nothing more is done than the ligation of the sac. Operation not advisable in infancy.

Dr. Beckman said that 4 or 5 per cent. of babies have hernia. A support causes a great number to disappear. He does not believe in truss treatment for a prolonged period.

Dr. Sluss said that all inguinal herniæ are congenital. He reviewed the formation of the inguinal canal. The sac formed closes late or not at all. Growth pulls the internal and external ring in different planes and makes the canal oblique. Operation is best done in early age, after it has been determined that the sac will not close. Collodion dressing is convenient to keep the wounds clean. Operation is sufficient since the sac is thin walled. Ligation of the sac is not sufficient. Strangulation should be recognized from symptoms.

Dr. Potter said that a child should not be allowed to go through life with a handicap of a hernia. Operation should be done as early as it is safe and so make the child normal.

Dr. J. R. Eastman said that early operation is advisable. The truss treatment belongs to the pre-antiseptic era. Hernia is a constant danger and should be cured early. Simple ligation of the sac is usually all that is necessary. Caution necessary to avoid injuring the vas. After the sac is separated the difficult part of the work has been accomplished. In hernia associated with undescended testicle, the Bevan operation cures both.

In closing, Dr. Ross said that in the operation the single ligation of the sac is all that is necessary, since anatomical changes in development make a firm wall. The tendency is to do early operation. Infection is not more frequent in infancy than in older children.

Adjourned. Homer R. McKinstray, Secretary.

Meeting of November 28

Society called to order by president. Minutes of last meeting read and approved. Fifty-eight members present. No regular program had been prepared, the meeting being given over entirely to the discussion of the report of the Committee on Revision of Constitution and By-Laws. In addition general matters pertaining to the society were discussed. The report of the Committee on Revision of Constitution and By-Laws was accepted with the exception of the following:

1. Society voted to add an additional article to the constitution, entitled "Membership," providing that there be active, associate and honorary members.

2. Amendment No. 7.—The society rejected the recommendation of the committee and substituted a section providing that the Council have final action in rejection of applicants, but recommended elections giving the society the determining action.

3. The recommendation of the committee that the delegates of the state convention be not required to furnish a report was rejected.

4. The recommendation of the committee that members of the society outside of Indianapolis pay $5.00 a year dues was rejected. Society voted that they pay $3.00 instead.

5. An additional chapter was added to the By-Laws, authorizing the society to create special clinical sections.

After discussion of the question of clinics, the society voted to hold regular clinical meetings at such times and place as the Council may determine.

It was the consensus of opinion that the Committee on Revision of Constitution and By-Laws submit a final report, with such changes as indicated by votes of the society, for final adoption.

Adjourned. Homer R. McKinstray, Secretary.

DELAWARE COUNTY

At the regular meeting of the Delaware County Medical Society, held at Muncie, December 1, the following officers were elected for the coming year: President, A. E. Vinton; vice-president, G. W. Bucklin; secretary-treasurer, H. D. Fair; censor, O. E. Spurgeon; delegate, I. N. Trent.

The Society voted its contempt for attorneys who accept a case of malpractice against a reputable physician, on a contingent fee, and also for any physician who lends his aid to such prosecution.

Dr. J. M. Quick presented an able paper dealing with the ocular symptoms which are a means of diagnosis in general diseases. The six signs which he considered of most importance are, (1) retinal hemorrhage, (2) optic neuritis, (3) optic atrophy, (4) pulsation of the retinal arteries, (5) embolism and thrombosis of the central artery, and (6) tubercles of the chorioid. In regard to these diagnostic means, Dr. Quick made the following contentions: (1) Retinal hemorrhage is an important danger signal, and the safeguarding of life should be the foremost consideration, for a large percentage of the cases end disastrously; (2) Papillitis or choked disc is an important condition, not only as a valuable diagnostic sign but because of the likelihood of its passing into atrophy of

the nerve; (3) Atrophy is primary or secondary. The former is often a symptom of spinal cord disease, occurring in about 10 per cent. of all cases of tabes. In progressive cases blindness ensues in about three years; (4) Pulsation of the retinal arteries is seen in insufficiency of the aortic valves and in exophthalmic goiter; (5) Embolism and thrombosis are an indication of ulcerative endocarditis, valvular disease, atheroma of large arteries, aneurism of the aorta and thrombosis of the pulmonary veins; (6) Tubercles of the chorioid are indicative of tubercular meningitis or general miliary tuberculosis.

Adjourned. H. D. FAIR, Secretary.

KOSCIUSKO COUNTY

The regular meeting of the Kosciusko County Medical Society was held Nov. 28. Meeting called to order by President Yocum. Minutes of previous meeting read and approved.

Dr. F. J. Young, of Milford, reported three cases of pernicious anemia, and Dr. T. J. Shackelford, of Warsaw, also reported a case of the same disease.

Dr. C. Norman Howard, Warsaw, read a paper on "Coryza and Pharyngitis:" Dr. C. C. DuBois, Warsaw, read a paper on the subject, "Drug Habits and Alcoholism." Discussion by Drs. Shackelford, McDonald, Anglin, Yocum, Young and Hines.

Adjourned. C. NORMAN HOWARD, Secretary.

ST. JOSEPH COUNTY

The twenty-sixth special annual meeting of the St. Joseph County Medical Society was held in the Oliver Hotel, Friday, November 17. One hundred and ten physicians were present. The papers were excellent and the discussions lively. Owing to an unavoidable accident Dr. Chas. P. Emerson of Indianapolis was not present. The following is an abstract of the papers and the discussions:

Dr. Goethe Link, Indianapolis, Ind.: "A Pistol Wound of the Diaphragm, Liver, Stomach, Spleen, and Kidney." A study of the literature on abdominal gunshot wounds shows that such wounds occur twice as frequently in upper abdomen and in majority of cases quickly followed by death.

For extent of injury and number of organs involved this case is unique. An insane patient, aged 50, shot herself with a 32 caliber pistol; entrance wound 1¾ inches to left of middle line over stomach.

Operation: Incision from ensiform cartilage to within 2 inches of pubis and to left through rectus muscle and seventh costal cartilage. Free blood in abdomen; liver perforated, no hemorrhage. Wound closed with mattress suture. Stomach: on anterior surface 1½ inches from greater curvature wound, closed with purse-string suture. Spleen: lower end bleeding, closed with mattress suture. Kidney wounded: perirenal hemorrhage. Abdominal wound closed. History: urine bloody, and dressings urinous, 7th day temperature 100, pulse 112, respiration 30, pain in chest. Fourteenth day same; external wound would not heal. Syphilis diagnosed and treatment instituted with complete recovery.

Splenectomy for injury followed by mortality of 30 per cent.; after suture, 14 per cent.

Conclusions: Hemorrhage from liver may stop spontaneously but will not stop in injury to spleen, so that either a splenectomy or spleen suture must be done. The latter should be performed when possible and with mattress suture.

An incision which mobilizes the lower part of thoracic cage enables the spleen to be sutured *in situ*.

DISCUSSION

Dr. J. B. Bertling: Hemorrhage from liver and spleen is hard to control due to extreme friability. Not so much hemorrhage following a gun-shot wound as from a stab-wound. Cat-gut better than silk or linen.

Dr. C. C. Terry: Besides hemorrhage, infection is great danger. Isn't it true that in winter infection more frequently follows gun-shot wounds because of woolen garments worn; wool being more liable than cotton to carry infection? Liver wounds may heal spontaneously; spleen, never; always suture spleen wounds. In gun-shot wounds of intestine start at sigmoid flexure and follow up, carefully inspecting all of large and small intestine. In suturing on mesenteric side be careful not to cut off blood-supply.

Dr. Young: Interesting in number of organs involved. Gave case report.

Dr. Miller: Tendency in surgery is to lose sight of medicine and thus overlook points that may mean life or death. In this case syphilis was diagnosed and the treatment of this no doubt favorably influenced result.

Dr. Martin: Such wounds of upper abdomen are followed by alarming hemorrhage but infection more frequently follows in wounds of lower abdomen. Case report.

Dr. Stiner: Case report.

Dr. Stoltz: Work must be prompt, thorough and done close to the scene of the accident. Infection is as common in upper as in lower abdomen. In closing wounds of intestine may destroy two-thirds of the lumen and no trouble follow, as intestine will compensate.

Dr. Kilmer: Reports four cases without surgical interference, all recovered. Believes such cases should not be operated upon.

Dr. Link (closing discussion): Did not see patient until prepared for operation but understood that she was dressed in woolen underclothes at the time of injury. The close proximity of pistol may have sterilized the wound. Sutures must be drawn tight enough to stop hemorrhage but not necessary to approximate injured surfaces of liver or spleen. This report is made to encourage surgery in such cases. You cannot tell extent of injury by viewing outside wound.

"Diagnosis of Diseases of the Chest by Means of the Roentgen Rays." Dr. S. A. Clark, So. Bend, Ind. The reliability of this means of diagnosis is not fully appreciated by the profession at large.

X-ray findings based upon principle that the ray penetrates substances in a degree varying with the density of the substance. For this reason *x*-ray is of greater value in diagnosis of organic than functional diseases.

Not to be relied upon to exclusion of other means of diagnosis but when used in conjunction with other methods, more accurate and more certain diagnoses can be made.

Examination is without danger or inconvenience to patient.

Ideal method is combination of fluoroscopic and radiographic examinations.

Aids in diagnosis of diseases of esophagus, heart, pleuræ, lungs, blood-vessels and of neoplasms.

X-ray examination should be made of all cases of suspected pulmonary tuberculosis.

DISCUSSION

Dr. Haywood: This is practically a new field for radiography. There are many chances for error but an experienced person can give much valuable information. The flat picture is objectionable because shadows appear on one plane and overlap. Stereoscopic negatives are better because you look through and around and one is better able to locate the lesions. By *x*-rays one may make an early diagnosis where the physical is doubtful.

Dr. Sensenich: Gave a very graphic picture of conditions. The fluoroscope is valuable because you see movements. Central pneumonia can make an early and accurate diagnosis.

Dr. Chas. Mayo: Practice of medicine and surgery has been modified and greatly influenced by this measure. In kidney surgery it is a matter of fact. Diverticulæ of esophagus, goiter tumors, thymus, cancer of breast with involvement of lung, tuberculosis of lungs show earlier stage than by physical diagnosis. Cannot practice without the employment of *x*-rays.

Dr. Clark, in closing: The fluoroscope should be more fully appreciated because you see the actual condition in active life as it were.

Dr. Oliver S. Ormsby, Chicago: "Syphilis—Some Recent Findings Relative to Etiology; Diagnosis and Treatment." A lantern slide demonstration. Syphilis has been known since 1494 and whether or not it was brought into Europe by Columbus on his return from America is a disputed question. For centuries all venereal diseases were regarded as one. Ducrey described a bacillus as the cause of chancroid; Neisser discovered the gonococcus as the cause of gonorrhea; Schaudinn and Hoffman in 1905 found the *Spirochæta pallida* to be the cause of syphilis; and in 1907 Scherber and Miller announced a bacterium as the cause of erosive and ulcerative balanitis.

Before Schaudinn and Hoffman made their discovery some eighty-six bacteria had been discovered in syphilis. The *Spirochæta pallida* is a very thin spirillum, 14-19 microns in length and has 6-14 spirals, tapering extremities with flagella on the ends. It has three movements, screw, end over end, and a wavy motion. The Giemsa and Levaditi stains and dark field illumination are the best means of demonstration. Metchnikoff and Roux have inoculated animals and lately it has been cultivated, thus fulfilling all of Koch's postulates.

The fact that the organism soon dies on exposure prevents many inoculations. The recent crusade against the public drinking-cup is a move in the right direction, but the proper thing is public education of the dangers of the disease. There is no positive means of prevention though cauterization and excision have been practiced with little benefit. As a personal prophylaxis the 30 per cent. calomel ointment is very good. The disease is not milder but better treated; is worse in men than women; 7-12 per cent. of population have lues. The chancre is the primary lesion and is always present, develops within thirty days of exposure, usually on genitals, extra-genitally 5-10 per cent. As a rule patient is infective during the first year and by end of fourth year will not infect.

Dr. Ormsby then gave a history of the course of the disease, and showed many beautiful slides to demonstrate the character of the lesions and the differential diagnosis, following which he took up the treatment and considered the Wassermann reaction.

This treatment in the main is as it was before the advent of salvarsan. This new agent is a wonderful drug and will no doubt remain as an aid in the treatment of syphilis. It should not be given in all cases. The intramuscular injection of salvarsan in iodipin is painless and followed by good clinical results and is certainly the most simple and least dangerous method now at our disposal.

DISCUSSION

Dr. Shanklin: Glad to note Dr. Ormsby's position on salvarsan. It is a wonderful drug but not to replace mercury. Its greatest use is in early cases to prevent infection of others.

Dr. Work: Complimented Dr. Ormsby and then gave case reports. Believes salvarsan a cure of syphilis.

Dr. Bowser: In 500 cases of parasyphilitis, the Wassermann reaction, cell count of spinal fluid and clinical symptoms, showed that salvarsan had done harm.

Dr. Charles H. Mayo, Rochester, Minn. Tumors of the Thyroid: The glands of the body are of three classes: protective, digestive and eliminative.

The thyroid is a protective gland. It has been studied for many years and various theories have been proposed in explanation of its physiology and pathology.

The ductless glands in the neck can be demonstrated in embryos of 4 mm. The thyroid develops from three anlages—a superior median in the tongue bulb and two lower in the fourth branchial groove. If the gland should descend after the hyoid bone is formed the latter may catch and hold it, thus explaining the branchial cysts and sublingual thyroids.

The thyroid gland is located on each side of the trachea, covering the upper rings. It weighs one or one and one-half ounces, has a rich blood-supply, is alveolar in structure and the secretory cells pour out iodin, thyroidin and other substances which are taken up by the veins from short lymph channels. This secretion controls dilatation of the capillaries. The effect of the secretion is transitory but when in excess the strain is thrown on heart and kidneys. Babies without thyroid develop into cretins.

The thyroid is found in all animals and their study in animals has thrown much light on the whole question.

The hypertrophied thyroid of adolescence is due to the over-stimulation of the normal process; the gland then responds to medical treatment and should not be operated upon unless tumors are encysted. All of the glands of the body are oversized so that they may respond to excessive demands and in the case of the thyroid one-sixth is probably sufficient for all ordinary demands.

The four parathyroid glands are situated back of the capsule of the thyroid; they with the thyroid control the amount of mineral salts circulating in the body, especially the calcium salts. One good gland is sufficient to maintain normal function. All cases of tetany show cysts, or hemorrhages or loss of parathyroid substance and attacks are sometimes cured, at least temporarily, by giving calcium lactate and thyroid extract.

Tuberculosis of the thyroid gland is a rare condition. Carcinoma is also uncommon and curable by operation if confined within the capsule and no glandular involvement exists. Vomiting of pregnancy is probably due to functional reflex disease of the thyroid and 5 to 10 grs. of thyroid given four hours before vomiting occurs often relieves the patient.

Graves', Basedow's, or Perry's disease, exophthalmic goiter, and hyperthyroidism all describe the same condition.

Slides were shown exhibiting different forms of thyroid tumors, pathologic specimens, histology and operations.

Ligation is advised when the patient is in a critical condition to be followed later with extirpation. The operative mortality is from 1 to 4 per cent.

Serum treatment may be effective in early cases of hyperthyroidism but cannot be controlled in later cases. The mortality is about 8 per cent.

DISCUSSION

Dr. Daugherty: How account for greater prevalence of thyroid disease in certain localities? Give results of transplanting in cretins. Are thyroid diseases more frequent in male or female? Does the thyroid influence sexual instinct? What forms of thyroid disease are contra-indicated for operation?

Dr. Terry: Mongolians seldom become charges because they rarely live beyond 12 years of age; as a rule die from trivial infection. Has thyroid extract a beneficial effect in eclampsia?

Dr. Hager: In double oophorectomy is it the absence of the ovaries or the unrestricted action of the thyroid that causes the unfavorable symptoms?

Dr. Stoltz: Why do women have more trouble with thyroid?

Dr. Mayo (closing discussion): The disease is present over the entire world but more common in certain localities. In cretins thyroid should be transplanted and repeated if necessary. It takes months to demonstrate any permanent benefit. Iodin as such is secreted by the thyroid. Of goiter patients 16 per cent. occur in men, 84 per cent. in women. Thirty per cent. of the patients have paresis or paralysis of one or more muscles of the vocal cords. The thyroid gland has a physiologic relation to the sexual organs. In cases of eclampsia there is no time to experiment with thyroid extract, but its use is indicated in albuminuria of pregnancy.

An operation on the thyroid does not cure a pathologic condition of the heart, liver and kidneys, but it stops the pathologic process and improves the condition of these organs. In hyperthyroidism 70 per cent. of patients recover after the operation. 26 per cent. are improved, and in 4 per cent. there is no improvement.

Adjourned. R. C. SHANKLIN, Secretary.

BOOK REVIEWS

HOSPITAL MANAGEMENT. A Hand-book for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting hospital work. By Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse;" "Primary Studies for Nurses;" "Clinical Studies for Nurses." 12mo of 488 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.00 net.

The author of this work is certainly to be congratulated upon having collected in condensed form a fund of information that will be most eagerly sought by all who are interested in hospital work, and especially hospital superintendents, heads of training schools, hospital boards and physicians serving on the staffs of hospitals.

As it is remarked in the preface, the purpose of the author has been to promote system, economy, and a better understanding of the principles that underlie successful, efficient hospital administration. And the success of Miss Aikens in accomplishing her purpose should be attested by a ready sale and rapid exhaustion of the edition.

A TUBERCULOSIS DIRECTORY. Containing a List of Institutions, Associations and Other Agencies Dealing with Tuberculosis in the United States and Canada. Compiled for the National Association for the Study and Prevention of Tuberculosis by Philip P. Jacobs, Ph.D., Assistant Secretary. Cloth pp. 331. Price $0.50. New York, 105 E. 22d St. 1911.

The rapid increase in the number of institutions and associations directing their efforts toward the eradication of tuberculosis since the last edition (1908) of this work has made a new one imperative. Since 1904, the anti-tuberculosis movement has increased in force nearly 700 per cent., and since 1908, over 105 per cent. This new directory shows 1,500 agencies in the United States and Canada engaged in the consumption fight.

HANDBOOK OF SUGGESTIVE THERAPEUTICS, APPLIED HYPNOTISM AND PSYCHIC SCIENCE. A manual of Practical Psychotherapy, Designed especially for the General Practitioner of Medicine and Surgery. By Henry S. Munro, M.D., Omaha, Neb. Third Edition, Revised and Enlarged. Cloth, pp. 409. C. V. Mosby Co., St. Louis, 1911. Price $4.00.

As stated in the remarks prefatory to this new, third edition, the exhaustion of two large editions within less than two years attests the success with which the author has made his appeal to the general practitioner to make more use of a rational psychotherapy in his everyday practice. The author justly places the responsibility for the existence of the Christian Scientist, the osteopath, the magnetic healer, etc., upon the medical profession, whom he charges with a gross neglect of psychological methods of treatment. And it is likewise true that drugs and surgery, although when properly applied are among the greatest blessings of humanity, yet are often grossly abused.

However, one cannot read this work without having a feeling that the author is probably a trifle overenthusiastic about his theme and that a good boiling down would both clarify and simplify the text. Likewise the grammatical construction is in need of rigid revision, more than one instance being noted of plural subjects with single predicates or vice versa.

PRACTITIONER'S VISITING LIST FOR 1912. Lea & Febiger, Publishers, Philadelphia and New York. Price by mail, postpaid to any address, $1.25. Thumb-letter index, 25 cents extra.

This is an invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shapel book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years.

HIERONYMUS FRACASTOR'S SYPHILIS. From the original Latin. A translation in prose of Fracastor's immortal poem. Published by The Philmar Company, St. Louis, Mo., 1911.

This celebrated poem, published in the first half of the sixteenth century, has endured for almost four centuries, and to it is given the credit of first naming the disease after the shepherd Syphilus in whom the disease was first typified in Fracastor's poem. The poetic descriptions of the clinical picture and the various modes of therapy are most interesting and bear evidence of the professional acuity of this illustrious author. Any physician will enjoy its perusal.

INDEX TO VOLUME IV

ORIGINAL ARTICLES

PAGE

Auto-Intoxication from the Alimentary Canal.... 112
Alimentary Canal, Auto-Intoxication from the.... 112
Arteriosclerosis 205
AUSTIN, MAYNARD A., Anderson (1. Endotheliomatous Cyst of the Omentum) 223
(2. Cutaneous Blastomycosis) 436
ANGLIN, G. W., Warsaw (Pathology, Symptoms and Treatment of Burns) 261
Address to Graduating Class of the Indianapolis City Hospital Training School for Nurses.... 303
Antitoxin, Diphtheria, Action and Dosage of..... 266
Ankle, Injuries In and About..... 510
Adenoid Cases, Why Reoperate in?..... 513
ALLEN, H. R., Indianapolis (An Improved Method of Treating Fractures of the Humerus).... 519

Bone Transplantation 181
Burns, Pathology, Symptoms and Treatment of... 261
Bladder, Exstrophy of the..... 331
Brain Tumor: Based on a Study of Twenty-Five Cases 359
BEASLEY, THOMAS J., Danville (Local Use of Tuberculin in the Treatment of Open or Surface Forms of Tuberculosis)..... 432
Blastomycosis, Cutaneous 436

CHARLTON, FREDERICK R., Indianapolis (Revolutionary Methods in Connection with Syphilis) 1
Clinical Methods vs. the Laboratory in the Practice of Medicine 106
CARTER, P. B., Macy (Auto-Intoxication from the Alimentary Canal 112
Cardiac Therapy, Some Suggestions in..... 115
Catheters, Sounds and Drainage Tubes; Their Selection, Care and Use..... 155
Cesarean Operation, A Plea for the, Based on a Report of Fifty-Three Cases Performed in Indiana 162
Cesarean Section, Elective, The Conservatism of... 171
Cerebellar Abscess and Labyrinthine Suppuration, Differential Diagnosis of..... 219
Club-Feet, The Treatment of..... 227
Cancer of the Prostate; Report of Two Cases..... 364
Children, Diseases of 329

Doctor, The New; A Representative of the Twentieth Century Idea 179
Diphtheria Antitoxin; Action and Dosage..... 266
Diseases of Children, The Study of..... 329
Doctor in Politics, The 333
Diagnosis and Treatment of Empyema..... 516

Endotheliomatous Cyst of the Omentum; Case Report 223
Ear Involvement, Internal, in Acute Infectious Diseases, Importance of Early Recognition of. 297
Exstrophy of the Bladder 331
Empyema, Diagnosis and Treatment..... 516
ELLIOTT, HARRY, Brazil (Diagnosis and Treatment of Empyema)..... 516

FERNALD, W. J., Frankfort (An Overlooked Factor in Immunity) 73
Foreign Body in the Orbit Discovered by the Magnet after Failure by the X-Ray..... 270
FIELD, WILLIAM H., Evansville (Importance of Early Recognition of Internal Ear Involvement in Acute Infectious Diseases)..... 297
FINLEY, G. W., Brazil (The Study of Diseases of Children) 329
Fibromyomata, Uterine 505
Fractures of the Humerus, Improved Method of Treating 519

PAGE

GREEN, DWIGHT MUNRO, Muncie (The Laboratory vs. Clinical Methods in the Practice of Medicine) 106
Gynecology, The Probable Direction of the Progress of, in the Immediate Future..... 217
GRISWOLD, E. H., Peru (Injuries In and About the Ankle) 510

HEATH, F. C., Indianapolis (Ocular Headache and Its Relief) 103
Headache, Ocular, and Its Relief..... 103
HIRST, BARTON COOKE, Philadelphia (The Probable Direction of the Progress of Gynecology in the Immediate Future) 217
HUME, J. D., Milroy (Triple Pregnancy, with Report of a Case) 485
Humerus, Fractures of the, Improved Method of Treating 519

Immunity, An Overlooked Factor in 73
Infectious Diseases, Acute, Importance of Early Recognition of Internal Ear Involvement in.. 297
Injuries In and About the Ankle..... 510

JACKSON, G. B., Indianapolis (Present Trend of Operative Obstetrics) 121
JETT, F. H., Terre Haute (The Justification of Early Prostatectomy) 475

KIMBERLIN, A. C., Indianapolis (Some Suggestions in Cardiac Therapy)..... 115
KEMPER, G. W. H., Muncie (A Plea for the Cesarean Operation, Based on a Report of Fifty-Three Cases Performed in Indiana) 162
KIMBALL, M. C., Converse (The New Doctor; A Representative of the Twentieth Century Idea) 179
KYLE, JOHN J., Indianapolis (Differential Diagnosis of Labyrinthine Suppuration and Cerebellar Abscess) 219
KETCHAM, JANE M., Indianapolis (The Hygiene of Menstruation) 224
KENNEDY, C. M., Camden (Acute Anterior Poliomyelitis, with Report of a Case) 327

Laboratory vs. Clinical Methods in the Practice of Medicine 106
LOWDER, H. R., Bloomfield (Arteriosclerosis).... 205
Labyrinthine Suppuration and Cerebellar Abscess, Differential Diagnosis of 219
Labor, Difficult, Common Causes and Treatment of 479

Migraine 59
MEFFORD, W. D., Chicago (The Wassermann Test and its Value to the Physician) 66
Malaria in Indiana 70
Menstruation, The Hygiene of 224
McKINSTRAY, H. R., and H. S. THURSTON, Indianapolis (Rabies, History, Pathology, Diagnosis and Treatment) 253
MUMFORD, EUGENE BISHOP, Indianapolis (Diphtheria Antitoxin; Action and Dosage) 266
MORRISON, FRANK A., Indianapolis (Foreign Body in the Orbit Discovered by the Magnet after Failure by the X-Ray) 270
McCASKEY, G. W., Fort Wayne (Brain Tumor; Based on a Study of Twenty-Five Cases)... 359

NEU, C. F., Indianapolis (Migraine) 59

Ocular Headache and Its Relief 103
Obstetrics, Operative, Present Trend of..... 121
Omentum, Endotheliomatous Cyst of the..... 223

Pregnancy, Triple, with Report of a Case..... 485
Prostatectomy, Early, Justification of..... 475

PAGE

Pfaff, O. G., Indianapolis (The Conservatism of Elective Cesarean Section) ... 171
Porter, John L., Chicago (The Treatment of Club-Feet) ... 227
Poliomyelitis, Acute Anterior, with Report of Case ... 327
Prostate, Cancer of the; Report of two Cases ... 364
Pettit, Roswell T., Ottawa, Ill. (Tuberculin and Autogenous Vaccines in the Treatment of Pulmonary Tuberculosis) ... 421
Potter, Theodore, Indianapolis (Tuberculin Diagnosis) ... 426
Pregnancy, Toxemia of ... 469
Ross, David, Indianapolis (Bone Transplantation) ... 181
Rabies; History, Etiology, Pathology, Diagnosis and Treatment ... 253
Rhamy, B. W., Fort Wayne (Vaccine Therapy; A Review of the Principles and Practice of Immuno-Therapy) ... 298
Syphilis, Revolutionary Methods in Connection with ... 1
Schweitzer, Ada E., Indianapolis (Malaria in Indiana) ... 70
Shimer, William, Indianapolis (The Bacteriology, Pathology and Diagnosis of Typhoid Fever) ... 209
"606", Report of Cases Treated by ... 293
Stemm, W. H., North Vernon (The Doctor in Politics) ... 333
Spohn, George W., Elkhart (Why Reoperate in Adenoid Cases?) ... 513
Typhoid Fever, The Bacteriology, Pathology and Diagnosis of ... 209
Thurston, H. S., and H. R. McKinstray, Indianapolis (Rabies; History, Etiology, Pathology, Diagnosis and Treatment) ... 253
Tuberculosis, Pulmonary, Tuberculin and Autogenous Vaccines in the Treatment of ... 421
Tuberculin Diagnosis ... 426
Tuberculin and Autogenous Vaccines in the Treatment of Pulmonary Tuberculosis ... 421
Tuberculin. Local Use of, in the Treatment of Open or Surface Forms of Tuberculosis ... 432
Toxemia of Pregnancy ... 469
Uterine Fibromyomata ... 505
Vaccine Therapy; A Review of the Principles and Practice of Immuno-Therapy ... 298
Van Sweringen, B., Fort Wayne (Exstrophy of the Bladder) ... 331
Wassermann Test and its Value to the Physician, The ... 66
Wishard, William N., Indianapolis (1. Catheters, Sounds and Drainage Tubes; Their Selection, Care and Use) ... 155
(2. Address to Graduating Class of the Indianapolis City Hospital Training School for Nurses) ... 303
Wynn, Frank B., Indianapolis (Report of Cases Treated by "606") ... 293
Welborn, James Y., Evansville (Cancer of the Prostate) ... 364
Wishard, E. E., Noblesville (Common Causes and Treatment of Difficult Labor) ... 479
Why Reoperate in Adenoid Cases? ... 513
X-Ray, Failure of, in Locating Foreign Body in the Orbit ... 270
Young, Simon J., Valparaiso (Uterine Fibromyomata) ... 505

EDITORIALS

Breast Tumors ... 188
Cartoons and Editorials in the Lay Press on Vivisection ... 126
Cytology of the Blood in Tuberculosis, The ... 319
Defense of the New York "Regulation Law" ... 34
Diverticulitis, Acquired ... 341
Functions of the Great Omentum ... 127
General Anesthetics, The Administration of, with Special Reference to Ether and Chloroform ... 271
Human Nature and the Public Health ... 36
Hodenpyl's Theory Partially Confirmed ... 272
Heart Failure Under Ether ... 406
Honest Medicines ... 526
Increase in the State Association Dues, The ... 80
Infant Mortality and Morbidity, Facts Concerning 448
Intravenous Injection of Magnesia Sulphate in Bacteremia ... 128
Infantile Diarrhea Treated with Divi-Divi and Banana Flour ... 232
Indianapolis Session, The ... 445
Los Angeles Session, The ... 187
Labordine Coudrey ... 527
Medical Defense Adopted ... 449
Maternal Nursing by Eclamptics ... 77
Notice to County Medical Society Secretaries ... 126
Our President ... 406
Pending Legislation in which Doctors are Interested ... 37
Parental Instruction in the Fight for Social Purity 274
People Demand Pure Food ... 405
Puerperal Infections ... 487
Pleuritis, Serofibrinous, Some Fallacies in the Conception of ... 524
Relation of Disease of the Gall-Bladder and Biliary Ducts to the Gastric Function ... 35
Sugar in Infant Feeding ... 488
Salvarsan Pendulum Swinging Back ... 78
Stools in Infancy, Examination of the ... 189
Suggestions for Increasing Interest in County Societies ... 342
Some Fallacies Regarding Skin Disinfection, Especially by the Iodin Method ... 318
Topographic Diagnosis in Pulmonary Tuberculosis 231
Typhoid Carriers, Vaccine Therapy for ... 525
Unreliability of Little-Used Remedies ... 487
Vipond's Bacillus of Scarlet Fever ... 340
Venereal Contagion Reportable ... 446
Vaccine Therapy for Typhoid Carriers ... 525
Work of the Legislature ... 125

SPECIAL ARTICLES

Announcement of Committee on Arrangements for the Indianapolis Session. Dr. E. D. Clark, Chairman ... 337
Bacteriology and Pathology, The Advances in, During 1910. Dr. B. W. Rhamy, Fort Wayne ... 19
Bacteriological Laboratory of the State Board of Health, Improvements at the. Dr. J. P. Simonds, Indianapolis ... 336
Does it Pay? Dr. Jared Spooner, Peru ... 310
Indianapolis Session, The ... 367-392
Infant Mortality, The New York Summer Campaign Against. Hiram K. Moderwell, New York ... 334
Los Angeles Session of the American Medical Association, The. Dr. Albert E. Bulson, Jr., Fort Wayne ... 314
Medicine, The Year's Progress in. Dr. Theodore Potter, Indianapolis ... 24
Medical Cooperation, The Necessity for. Dr. F. C. Heath, Indianapolis ... 419

PAGE

Pediatrics, The Year's Progress in. Dr. L. Park Drayer, Fort Wayne 16
Professional Fellowship and Brotherly Love. Dr. C. E. Linton, Medaryville 313

Surgical Year, The, Dr. Miles F. Porter, Fort Wayne 8
State Board of Health, The Year's Work of the. Dr. J. N. Hurty, Indianapolis 31

CORRESPONDENCE

Banquet at the Indianapolis Session, The 354

Committee on Public Policy and Legislation, The 85, 131

Fort Wayne Special to Los Angeles, The 238

Kemper's Medical History of Indiana 532

Motion Pictures for Medical Societies 45

Pure Food and Drug Laws—Facts and Suggestions from the Secretary of the State Board of Health 45

Should Physicians be Prosecuted for Violation of the Speed Laws When Answering Emergency Calls? 45
State Board of Medical Registration and Examination, The Work of the 85
State Meeting, The 237
State Medical Association, Our, The Purposes of. 279

To a Skeleton 194

THERAPEUTIC NOTES

Abscesses, Treatment of 229

Digitalis, Potency of 184
Delirium Tremens 338

Graves' Disease, The Treatment of 185

Hyperhidrosis 317

Idiosyncrasy to Synthetics 185
Iodin for Antiseptic Purposes 337

Santonin and Castor Oil 229
Silver Nitrate Irrigations in the Treatment of Infectious Diarrhea in Infants 229
Sodium Salicylate, Administration of 230
Soy Bean as a Food in Diabetes, The 317

Venereal Prophylaxis 337

DEATHS

Andrew, George L 413
Andrews, Joseph O 351
Anness, H. H 46
Axline, Mrs. J. A 195

Ballard, John W 457
Bennett, T. N 238
Buckner, George W 87
Borton, T. A 413
Botts, E. N 87
Bell, Wm. H 280
Boor, Mrs. Sarah A. R 494
Bare, Addison W. 132
Baird, John V 239
Beck, Carl 322
Busse, Katharine Snyder 535

Cox, Ira 46
Coble, Jacob 87
Cooperider, Jefferson 351
Coleman, Horace 280

PAGE

Caple, Alfred Z 413
Cooper, Andrew G 280
Crouse, Henry M 280

DePew, Ezra William 351
Dienhart, Michael 535

Edwards, O. M. 239
Engleman, Lewis P 413

Ferris, Mrs. Margaret C 280
Fertich, G. W 413
Flynn, William 457

Green, A. S 46
Green, Mrs. J. B 239
Graham, Joseph B 494
Geary, Robert G 322

Haworth, E. E 46
Holton, William M 47
Hyten, William H 239
Hinkle, Emil 413
Hitt, Sherman B 457

Junkin, S. B 87

Knabe, Helene Elise Hermine 495
Kemble, Lorenia 132
Kindleberger, William H 280

Leiter, W. S 87

Metts, John I 322
Mitchell, Samuel P 413
Mauk, John R 413, 535
McCoy, Harry H 195
Mayo, William W 195
McClain, Leslie 413
McCarth, W. W 46
Martin, Marquis L 46
Medaris, John W 457
Moore, Maurice G 87
Moellering, Harrie 87
Morrison, J. A 351
MacCoy, Mrs. George T 494
McFatridge, L. C 535
Moore, Wilmot 535
Montoux, Charles G. R 535

O'Neal, Laughlin 535

Potter, William Warren 195
Peters, Walter H 495
Price, Joseph 322
Powell, Beecher B 535

Rea, O. E 87
Richards, William R 280
Ritter, R. H 281
Richey, Samuel Reed 457

Smith, W. H 494
Spietal, H. B 238
Straughan, John Wesley 351
Smith, William Henry 535
Smullen, Nellie 535
Spencer, Charles F 535

Tilson, Washburn 280
Thurston, Mrs. E. H 494
Tevis, E. R 351
Turner, Porter 413
Tucker, H. B 457

Wilson, J. S 238
Wagner, T. A 239

SOCIETY PROCEEDINGS

Allen County 53, 98, 150, 202, 242, 285, 498, 536
Adams 100

Carroll 56, 286

PAGE
Decatur 100
DeKalb 56, 151
Delaware 539

Eighth District Medical Society..... 242
Eleventh District Medical Society..... 498
Elkhart 355

Fifth District Medical Society..... 284
Fountain-Warren 56

Greene 246

Hamilton 56
Hendricks 151
Huntington ..57, 101, 151, 203, 246, 286, 325, 417, 465

Indianapolis 49, 96, 147, 198, 287, 323, 500, 537
Indiana State Medical Association..... 459

Jefferson 57
Jennings 57

Knox 355
Kosciusko.....
57, 101, 152, 203, 246, 286, 325, 418, 466, 502, 540

LaPorte 101

Madison 57, 101, 203, 466
Marshall 101, 203, 246, 290, 325, 502
Miami 152, 247
Montgomery 57, 247, 356

Ninth District Medical Society..... 284
Noble 101, 290, 466

Parke 203, 356
Pike 290, 502
Posey 325
Putnam 152, 247

St. Joseph 247, 290, 325, 467, 502, 540
Spencer 58, 326, 356, 417

Twelfth District Medical Society..... 199
Thirteenth District Medical Society..... 242

Union 467

Vigo 204, 248

Wayne 102
Whitley 102, 467

BOOK REVIEWS

Anatomy, Applied (Davis)..... 58

Bright's Disease, The Anatomic Histological Processes of (Oertel)..... 418
Blues, The; Causes and Cure (Abrams)..... 251
Bacteriology, General, Text-Book of (Jordan)... 153
Bacteriology, A Text-Book of (Hiss-Zinsser)..... 102
Biology, General and Medical (McFarland)..... 153
Baby, The Care of the (Griffith)..... 504

Cystoscopy, Practical (Pilcher)..... 468
Children, The Care and Training of (Kerr)..... 152
Cardiac Pathology, Studies in (Norris) 503
Central Indiana Hospital for Insane, Report from Pathologic Department of (Vols. II and III) 503

PAGE
Domestic and Therapeutic Technic (Morrow)... 356
Dislocations and Joint Fractures (Cotton)..... 154
Dietetics, Practical, with Reference to Diet in Disease (Pattee) 251
Diagnosis, Differential (Cabot) 292
Diagnostic Methods (Sahli-Potter) 468
Dorland's American Illustrated Medical Dictionary 504

Eye, Manual of Diseases of the (May)..... 418

Golden Rules of Diagnosis and Treatment of Disease (Cables) 326
Gynecological Surgery, A Text-Book of (Berkeley) 357
Gonorrhea in the Male (Wolbarst)..... 503

Hygiene and Sanitation, A Manual of (Egbert). 102
Hydrotherapy (Hinsdale) 249
Hygiene, Public (Blair)..... 326
Hospital Management (Aikens)..... 542
Hieronymus Fracastor's Syphilis (Translation). 542

Infectious Diseases, Prevention of (Doty)..... 251
Inebriety (Crothers) 326

Mayo Clinic, Collected Papers by the Staff of St. Mary's Hospital 292
Modern Treatment (Hare) Vols. I and II....153, 251
Medical Chaos and Crime (Barnsby)..... 250
Medical History of Indiana (Kemper)..... 358

Nursing, A Manual of (Donahoe)..... 58
New and Nonofficial Remedies, 1911 (A. M. A.).. 251
Nose, Throat and Ear, A Manual of Diseases of the (Gleason) 249
Nose, Throat and Ear, A Treatise on Diseases of the (Ballenger) 252
Nostrums and Quackery (A. M. A.) 504

Orthopedic Surgery, A Treatise on (Whitman).. 250
Otology, Modern, The Principles and Practice of (Barnhill) 357

Pediatrics, Golden Rules of (Zahorsky)..... 356
Physicians' Visiting List for 1911 (Blakiston & Co.) 58
Physical Examination and Diagnostic Anatomy (Slade) 152
Principles of Therapeutics (Manquat-Gabriel).... 152
Progressive Medicine (Hare).....153, 249, 326, 468
Plastic and Cosmetic Surgery (Kolle)..... 251
Pediatrics, Case Histories in (Morse)..... 251
Practitioner's Visiting List for 1912..... 542

Symptomatology, Clinical (Pick-Hecht)..... 357
Surgery, The Practice of (Mumford)..... 252
Syphilis and Its Treatment, The Modern View of (Baar) 250
Surgery of Childhood Including Orthopedic Surgery (Willard) 204
Skin, A Treatise on Diseases of the (Stelwagon). 102
Saunders' Pocket Medical Formulary (Powell).. 152
Sexual Diseases, The Prevention of (Vecki)..... 204
Stomach and Intestines, Diseases of the (Reed).. 356
Spirochetes (Bosanquet) 418
Suggestive Therapeutics, Handbook of (Munro). 542
Syphilis, Hieronymus Fracastor's (Translation). 542

Therapeutics, Symptomatic and Regional (Hoxie) 153
Treatment, Practical (Musser-Kelly)..... 358
Tuberculosis Directory, A (Jacobs)..... 542

Veterinary Anatomy (Sisson) 291
Vaginal Celiotomy (Bandler) 357

What to Eat and Why (Smith)..... 467